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September 30, 2022

Via Messenger & CD-ROM

Dr. Susan Carlson
Director, Division of Biotechnology and GRAS Notice Review
Office of Food Additive Safety (HFS-200)
Center for Food Safety and Applied Nutrition
Food and Drug Administration
5100 Paint Branch Parkway
College Park, MD 20740-3835

Re: GRAS Notification for The Better Meat Co. for *Neurospora crassa*

Dear Dr. Carlson:

We respectfully submit the attached Generally Recognized As Safe (GRAS) Notification on behalf of our client, The Better Meat Co. (BMC), for its biomass of a wild-type isolate of *Neurospora crassa* to be used as an enhancer and substitute for meat (including pork), poultry, dairy, and seafood ingredients. More detailed information regarding product identification, intended use levels, the manufacturing process, and safety of the ingredient is set forth in the attached GRAS Notification.

BMC has determined that its *N. crassa* biomass is GRAS for its intended uses based on scientific procedures in accordance with 21 C.F.R. § 170.30(b) and in conformance with the guidance issued by the Food and Drug Administration (FDA) under 21 C.F.R. § 170.36 (81 *Fed. Reg.* 54960 (Aug. 17, 2016)). Therefore, the use of the *N. crassa* biomass as described in this GRAS Notification is exempt from the requirement of premarket approval as set forth in the Federal Food, Drug, and Cosmetic Act.

The analytical data, published studies, and information that are the basis for this GRAS Notification are available for FDA review and copying at reasonable times at Keller and Heckman LLP, 1001 G Street, NW, Suite 500W, Washington, DC 20001, or will be sent to the FDA upon request.

The messenger package includes printed copies of this cover letter, the GRAS Notification, and the Attachments and Appendix cited in Part 7, along with a CD-ROM with .pdf versions of the

same documents. We certify that the electronic files were scanned for viruses prior to submission and are virus-free using appropriate commercial computer software.

We look forward to the Agency's review of this submission and would be happy to provide Agency officials with any information they may need to complete their assessment. Thank you for your attention to this matter.

Sincerely yours,

Frederick A. Stearns

Enclosures

GRAS Notification for *Neurospora crassa*

Prepared for:

U.S. Food and Drug Administration
Office of Food Additive Safety (HFS-200)
Center for Food Safety and Applied Nutrition
5100 Paint Branch Parkway
College Park, MD 20740-3835

Prepared by:

Keller and Heckman LLP
1001 G Street, NW
Suite 500W
Washington, DC 20001

On behalf of our client:

The Better Meat Co.
2939 Promenade St.
West Sacramento, CA 95691

Date: September 30, 2022

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Part 1. Signed Statements and Certification

1. Applicability of 21 C.F.R. part 170, subpart E

In accordance with Subpart E ("Generally Recognized as Safe (GRAS) Notice") of 21 C.F.R. Part 170 ("Food additives"), Keller and Heckman LLP submits the enclosed information on behalf of our client, The Better Meat Co. (BMC).

The analytical data, published studies, and information that are the basis for this GRAS determination are available for FDA review and copying at reasonable times at Keller and Heckman LLP, 1001 G Street, NW, Suite 500 West, Washington, DC 20001, or will be sent to FDA upon request.

2. Name and Address of Notifier

The Better Meat Co.
2939 Promenade St
West Sacramento, CA 95691

All communications on this matter are to be sent to Counsel for the Notifier:

Frederick A. Stearns
Keller and Heckman LLP
1001 G St. NW, Suite 500 West
Washington, DC 20001
Telephone: (202) 434-4288
Email: stearns@khlaw.com

3. Name of the notified substance

Rhiza

N. crassa

Rhiza Mycoprotein

Rhiza Mycelium

N. crassa Mycelium

4. Applicable conditions of use of the notified substance

BMC intends to market Rhiza mycoprotein as a food ingredient in meat (including pork), poultry, and seafood, as well as in animal-free meat/poultry/seafood/dairy alternative products, and as a source of protein.

5. Basis for the GRAS determination

Keller and Heckman LLP, on behalf of BMC, hereby notifies the Agency of its determination that *Neurospora crassa* is GRAS for its intended use based on scientific procedures, in accordance with 21 C.F.R. § 170.30(b).

6. Exclusion from premarket approval

The notified substance is not subject to the premarket approval requirements of the FD&C Act based on our conclusion that the notified substance is GRAS under the conditions of its intended use.

7. Availability of data

The information for this GRAS conclusion—including analytical data, published studies, and information that are the basis for this GRAS determination—are available to FDA upon request as required by 21 C.F.R. § 170.225(c)(7)(ii)(A) or (B) by contacting Keller and Heckman LLP at the below address.

Frederick A. Stearns
Keller and Heckman LLP
1001 G St. NW, Suite 500 W
Washington, DC 20001
Telephone: (202) 434-4288
Email: stearns@khlaw.com

8. Applicability of FOIA exemptions

BMC is not claiming any information in parts 2 through 7 of this document as trade secret, confidential, or financial information that is privileged or confidential. Thus, all information and data in this submission are not exempt from the Freedom of Information Act (FOIA), 5 U.S.C. Section 552.

9. Certification

I hereby certify that, to the best of my knowledge, this GRAS notice is a complete, representative, and balanced submission that includes unfavorable information, as well as favorable information, known to us and pertinent to the evaluation of the safety and GRAS status of the use of the substance

Signature:

September 30, 2022

Frederick A. Stearns
Counsel to BMC

Date

10. FSIS/USDA – Use Meat and Poultry

BMC wishes to add Rhiza mycoprotein to meat (including pork) and poultry products that come under the jurisdiction of the U.S. Department of Agriculture's (USDA's) Food Safety Inspection Service (FSIS). This GRAS Notice includes Appendix 1 presenting data on the suitability of the ingredient for use in meat and poultry applications. BMC authorizes FDA to send to USDA/FSIS any portion of this GRAS Notice (including Appendix 1), which does not include any discussion of trade secrets.

Part 2. Identity, method of manufacture, specifications, and physical or technical effect

1. Identity

The food ingredient of interest is the biomass of a wild-type isolate of *Neurospora crassa*. Its taxonomy is as follows:[1]

Kingdom: *Fungi*
Phylum: *Ascomycota*
Class: *Sordariomycetes*
Order: *Sordariales*
Family: *Sordariaceae*
Genus: *Neurospora*
Species: *crassa*

The production strain has been submitted to the International Depositary Authority and has been assigned the identifier NRRL 68076. The ingredient of interest is the whole biomass of the BMC production strain of *N. crassa* in its dried or hydrated state, hereafter referred to as Rhiza mycoprotein. Rhiza mycoprotein is grown through fermentation on a food-grade substrate. Like other GRAS fungi-derived biomass ingredients, Rhiza mycoprotein consists of mycelium, a filamentous mass comprising the vegetative part of the fungus. The submerged fermentation process results in the production of a nutrient-rich material that is approximately 30% solids and approximately 70% water. Rhiza mycoprotein can be dehydrated and rehydrated to the same 30% solid/70% water state. As described below, Rhiza mycoprotein contains a high concentration of digestible, high-quality protein (approximately 45-50% on a dry basis) and dietary fiber (approximately 25% on a dry basis). The ingredient has a neutral taste and meat-like texture, making it an ideal substitute for meat, poultry, dairy and seafood ingredients.

a. DNA Sequence Alignment

Precise validation of the identity of the BMC production strain (Bstr 26) was initially conducted by analysis of the universal fungal barcode of the nuclear ribosomal internal transcribed spacer (ITS). The analysis was conducted by Genewiz (Azenta Life Sciences) and the obtained sequences were queried using Basic Local Alignment Search Tool (BLAST) against the ITS Genebank database. This identified Bstr26 as part of the *Neurospora* complex of fungi.

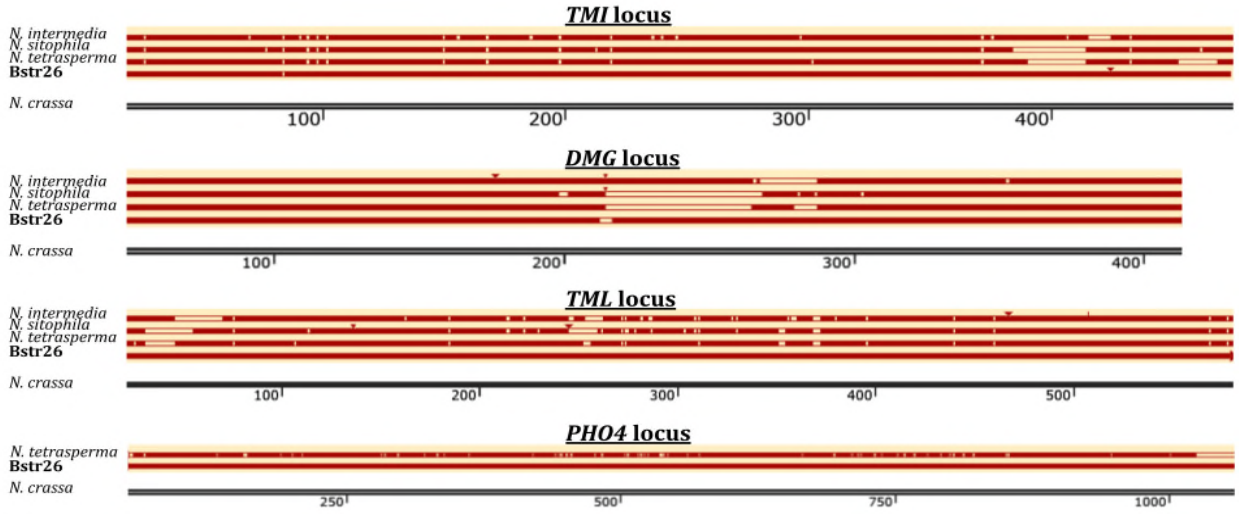
Precise genetic identification within the *Neurospora* genus is performed by targeted sequencing of genetic loci with known sequence variability across related species (Dettman et al., 2003; Luque et al., 2012). Established PCR primers were used to amplify the TMI, DMG, TML, and PHO4 loci from genomic DNA extracted from Bstr26. Sangar sequencing (at x4) was used to determine the sequence of these loci. Sequences were compared to *Neurospora* sequences that are available in the nonredundant Genebank database using BLAST to identify the most likely species. Next, the sequences were compared to the reference sequences of *N. crassa* and the closest related species (**Figure 1**). Sequence alignment unequivocally identifies

[1] *See* Biosafety Clearing-house, *N. crassa*, Organism Information, at https://bch.cbd.int/en/database/104624 (accessed May 20, 2022).

Bstr26 as an *N. crassa* - there is a complete match to the sequence of known *N. crassa* and sequence variations compared to the most closely related species of *N. tetrasperma*, *N. sitophila*, and *N. intermedia*.

Figure 1 below provides the schematic representation of DNA sequence alignment of 4 genetic loci. The black bars at the bottom represent the reference *N. crassa* sequence and the red represent the aligned sequences. As a reference and for comparison, the species closest to *N. crassa* are shown (the PHO4 sequence is not available for *N. intermedia* and *N. sitophila*). Spaces and errors in the bars represent deletions and insertions compared to the *N. crassa* sequence. The numbers at the bottom are base pair positions along the *N. crassa* reference sequence.

Figure 1: Sequence Alignment of Various *Neurospora* Species



b. Composition and Nutrition Information

Below we discuss the composition and nutrition profile for Rhiza mycoprotein (Table 1).

The nutrition and heavy metal analyses were performed by Medallion Labs in a nonconsecutive 3-batch analysis. The results of the testing are provided in Table 7.

Table 1. Nutrition Information (per 100 g)

Category	Method	Three Lot Average
Calories	Internal Calculation	366
	Calories, 2020	251
	Calories (Insoluble Fiber Subtracted)	257
Carbohydrates	Internal Calculation	38.00%

Cholesterol	AOAC: 976.26	<1.0 mg
Fat	Gas Chromatography, AOAC 996.06	3.64 g
-Saturated Fat	Gas Chromatography, AOAC 996.06	0.68 g
-Monounsaturated Fat	Gas Chromatography, AOAC 996.06	0.85 g
-cis-cis Polyunsaturated Fat	Gas Chromatography, AOAC 996.06	1.95 g
Total Dietary Fiber	AOAC 991.43	30.00 g
Insoluble Dietary Fiber	AOAC 991.43	27.17 g
Soluble Dietary Fiber	AOAC 991.43	2.83 g
Protein	AACC 46-30. AOAC 992.15	45.27 g
Sodium	AOAC 2011.14	57.93 mg
Calcium	AOAC 2011.14	57.2 mg
Iron	AOAC 2011.14	9.99 mg
Potassium	AOAC 2011.14	1660 mg
Vitamin D (D2+D3)	AOAC 995.05, 992.26, 2002.05	<0.7 µg

As noted above, Rhiza mycoprotein contains approximately 30% fiber on a dried basis (as measured using AOAC Method 991.43) and approximately 45% protein on a dried basis (as measured using AOAC Method 992.15).

Rhiza mycoprotein also has the following micronutrient content:

Table 2. Micronutrient Analysis

Vitamin	Amount	Measurement	Method
Vitamin K	<1	µg/100g	JOFCA #42 Modified
Vitamin C	<0.1	mg/100g	AOAC 984.26/WRE017
Vitamin B12	0.8	µg/100g	IJCPS-0976-9390
Total Vitamin D (D2+D3)	<0.7	µg/100g	LC-MS/MS
Riboflavin (Vitamin B2)	0.59	mg/100g	JOAC Vol 76, No 5, 1156, 1993
Niacin	66.3	mg/100g	AOAC-944.13
Biotin	12	µg/100g	USFDA-400 Modified
Vitamin E	<0.5	mg/100g	AACC-86.06 Modified
Vitamin B6 Pyridoxine Hydrochloride	13.2	mg/100g	AOAC-942.23
Vitamin A (Total)	<50	I.U./100g	WRE 054
Thiamin (B1)	<0.1	mg/100g	JOAC Vol76, No 5, 1156, 1993
Pantothenic Acid – B5	31.4	mg/100g	AOAC-960.46
Folic Acid	165	µg/100g	AOAC-944.12

BMC has evaluated the protein portion of Rhiza mycoprotein to assess its quality. In this regard, the following table summarizes the results of an amino acid analysis of three non-consecutive production batches of Rhiza mycoprotein:

Table 3. Percent Amino Acid Profile

Component	Sample 1 Lot 210322.250L	Sample 2 Lot 210503.250L	Sample 3 Lot 210510.250L	Average
Alanine	1.915	1.835	2.106	1.95
Arginine	1.928	2.080	2.250	2.09
Aspartic Acid	3.416	3.303	3.640	3.45
Cystine	0.349	0.374	0.485	0.40
Glutamic Acid	5.397	5.687	6.406	5.83
Glycine	1.467	1.406	1.573	1.48
Histidine	0.831	0.822	0.928	0.86
Isoleucine	1.501	1.389	1.415	1.44
Leucine	2.364	2.252	2.347	2.32
Lysine	2.227	2.367	2.736	2.44
Methionine	0.554	0.580	0.598	0.58

Phenylalanine	1.417	1.319	1.363	1.37
Proline	1.333	1.291	1.434	1.35
Serine	1.467	1.409	1.599	1.49
Threonine	1.570	1.587	1.791	1.65
Tryptophan	0.501	0.538	0.538	0.53
Tyrosine	0.883	0.892	0.829	0.87
Valine	2.149	1.735	2.403	2.10

Protein quality is based on its capacity to provide nitrogen and amino acids in amounts sufficient to meet human needs. The protein digestibility-corrected amino score (PDCAAS) is a method for evaluating the quality of a protein in the diet, based on human needs for amino acids and their digestibility. PDCAAS is the method referenced for assessing protein quality in FDA's nutrition labeling regulation at 21 C.F.R. 101.9(c)(7). Accordingly, to assess the quality of the protein in Rhiza mycoprotein, BMC obtained *in vitro* PDCAAS analyses of three non-consecutive batches of dry Rhiza mycoprotein, as summarized below:

Table 4. PDCAAS Analysis

Sample 1: 210322	**Sample 2: 210503**	**Sample 3: 2022040609 kLB**	**Average**
0.96	0.87	0.89	0.91

A PDCAAS score in the range of 0.87-0.96 is on par with animal-derived proteins, as described in the table below, which is adapted from Table 5 in GRAS Notice 904:

Table 5: PDCAAS Comparison

Protein Source	**PDCAAS Score[5]**
Casein	1.00[ac`]
Whey protein isolate	1.00[bc]
Whey protein concentrate	1.00[bc]
Egg	1.00[bc]
Beef	0.92[ac]
Rhiza mycoprotein	0.91
Soy protein	0.91[c]
Pea protein concentrate	0.89[b]
Pea	0.67[a]
Cooked kidney beans	0.65[b]

Cooked rice	0.62[b]
Cooked peas	0.60[b]
Roasted peanuts	0.51[b]
Whole wheat	0.45[a]

Notes: [a]—Scores annotated "a" were identified in van Vliet, S *et al.*, *The Skeletal Muscle Anabolic Response to Plant-Versus Animal-Based Protein Consumption*, The Journal of Nutrition, 145(9): 1981-1991 (2015)

[b]—Scores annotated "b" were identified in Rutherfurd, SM *et al.*, *Protein Digestibility-Corrected Amino Acid Scores and Digestible Indispensable Amino Acid Scores Differentially Describe Protein Quality in Growing Male Rats*, Journal of Nutrition, 145(2): 372-379 (Feb. 2015).

[c] Scores annotated "c" were identified in Schaafsma G, *The Protein Digestibility-Corrected Amino Acid Score*, The Journal of Nutrition, 130(7): 1865S-1867S (2000).

As is apparent from the comparative PDCAAS scores in the table above, Rhiza mycoprotein is a high quality source of protein in the human diet.

2. Manufacturing Process

BMC produces Rhiza mycoprotein through fermentation of a wild-type, unmodified, strain (Bstr26) using food-grade ingredients. The proprietary substrate includes carbon sources, nitrogen sources, and trace elements to promote rapid, healthy growth of *N. crassa*. The fermentation ingredients introduced are all free of the major allergens as identified by FALCPA and the FASTER Act. The fermentation media is maintained and cultured under good laboratory practices, and all components of the media are safe and suitable for human food. A sterile, controlled submerged fermentation process is utilized to propagate mycelial biomass.

Master and working cell banks of BMC's proprietary production strain are maintained in single-use sterile vials, following strict quality programs for culture purity and identity.

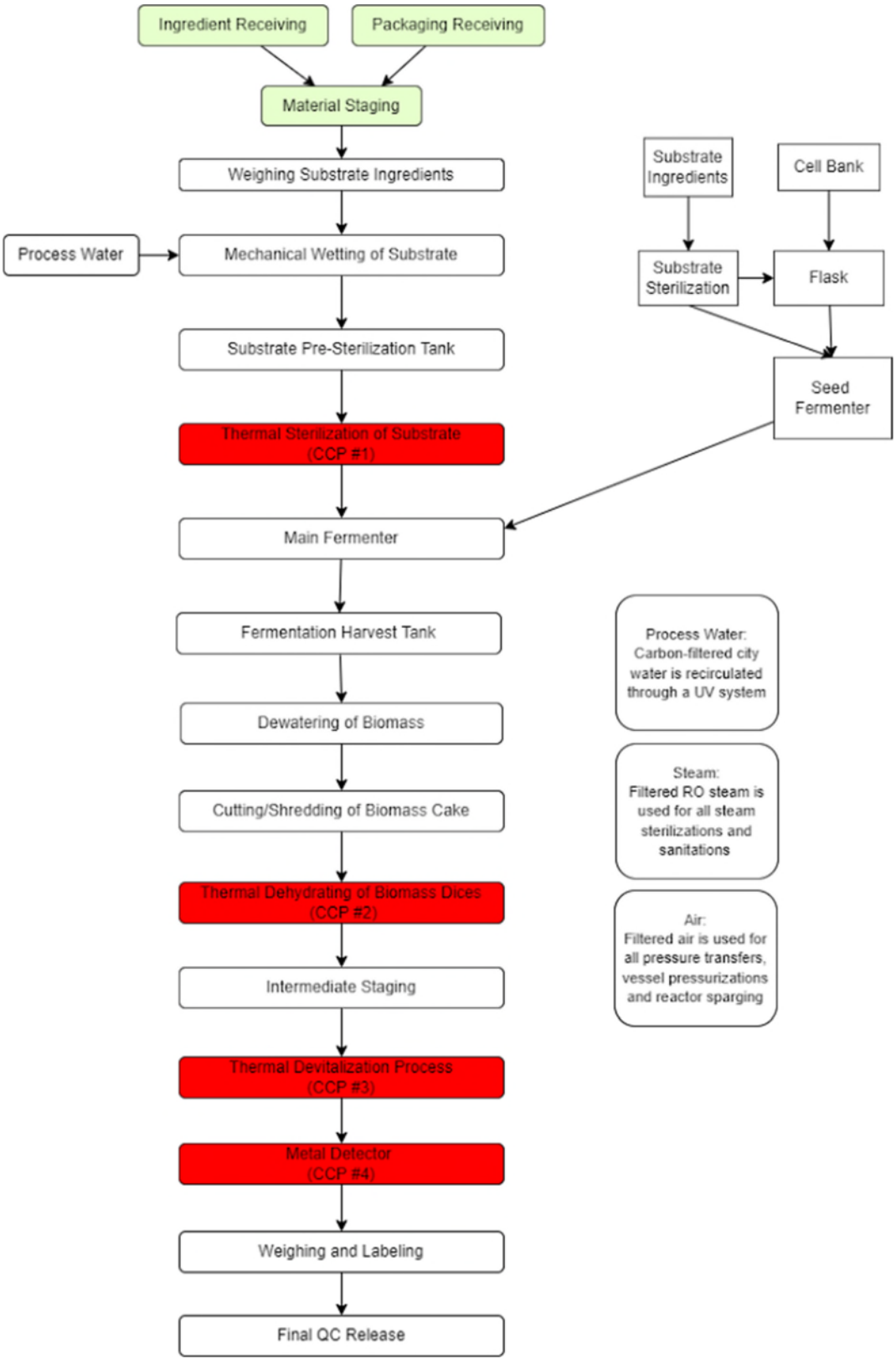
An individual vial is used to inoculate a production seed flask of sterilized liquid substrate. The flask culture is grown to the appropriate cell density under controlled conditions of temperature and agitation. Next, the seed flask culture is used to inoculate a seed fermenter, which is 1-5% volume of the main fermenter. The seed fermentation is routinely monitored for proper growth conditions and for culture purity. At the completion of the seed fermentation, the culture is transferred to the pre-sterilized main fermenter that is filled with sterilized media.

The main fermentation is frequently monitored for proper growth conditions, substrate utilization, mycelium density, and culture purity.

At harvest, the fermentation cell slurry is dewatered through a standard dewatering process, such as a belt press, screw press, or centrifuge , to a moist cake format, then diced to a particle size of 5 – 50 mm. The mycelium dices are then dehydrated under controlled conditions of temperature and humidity, ranging from 55 - 75°C for 20 – 90 minutes, until the water activity (a_w) is < 0.65.

The dehydrated mycelium is collected in food-grade bins and subjected to a validated thermal inactivation step, involving temperatures of 80-120°C for 15-120 minutes. These conditions act as a hazard control in the process to completely remove the viability of the production organism. These conditions also sufficiently reduce remaining viable microorganisms in terms of potential contaminating microbes. Each lot of finished product is analyzed and confirmed to meet the final product specifications outlined in Table 6. **Figure 2** below is a generalized flow diagram showing the manufacturing process for the biomass.

Figure 2: Rhiza Mycoprotein Production Flow Chart



3. Intended Use/Physical and Technical Effect

Rhiza mycoprotein is intended to be used as a meat replacer and a source of protein in a variety of foods, including meat and poultry. The filamentous nature of Rhiza mycoprotein sets it apart from many other plant-based meat alternatives (*e.g.*, soy, wheat, and pea protein isolates) in that the product is not a protein isolate but a whole biomass ingredient; accordingly, it offers a wider range of nutrients in addition to merely protein and retains the native whole food matrix. See Table 2 above, which summarizes nutrition information.

Rhiza mycoprotein has a firm, meat-like texture and mouthfeel. When used in meat alternative products, the rehydrated Rhiza mycoprotein will be used at levels ranging from 30-90%; when used in meat and poultry products, it will be used at levels in the range of 10-50%. Suitability data for Rhiza mycoprotein as a meat and poultry extender is provided in Appendix 1.

In addition to functioning as an extender and meat analog, Rhiza mycoprotein is a source of protein, containing approximately 45-50% crude protein on a dried basis and having a Protein Digestibility-Corrected Amino Acid Score (PDCAAS) of 0.87-0.96, with leucine being the limiting amino acid (see amino acid analysis and PDCAAS information above).

4. Specifications

BMC has set the following specifications for the finished product.

Table 6. Compositional Specifications

Analyte	**Specification**	**Method**	**Instrument**
Ash	<10%	AOAC 923.03	Furnace
Moisture	<11% in dry form	AOAC 945.45, 934.01	Vacuum Oven
Protein	>40%	AACC 46-30, AOAC 992.15	Combustion
Total Coliform	<10 CFU/g	AOAC 991.14	Petrifilm
E. coli	<10 CFU/g	AOAC 991.14	Petrifilm
Enterobacteriaceae	<10 CFU/g	Compendium 8.631	Incubation
Listeria monocytogenes	Negative/25 grams	AOAC 2013.11	Enzyme-linked fluorescent assay (ELFA)
Mold	<10 CFU/g	FDA BAM Ch. 18	Plate Culture
Salmonella	Negative/25 grams	AOAC 2013.01	ELFA
Yeast	<10 CFU/g	FDA BAM Ch. 18	Plate Culture
Arsenic	<0.1 ppm	AOAC 993.14 and 2015.06	ICP-MS

Lead	<0.1ppm	AOAC 993.14 and 2015.06	ICP-MS
Mercury	<0.1 ppm	EPA 7473	Milestone DMA-80 Direct Mercy Analyzer
Cadmium	<0.1 ppm	AOAC 993.14 and 2015.06	ICP-MS

The following table summarizes batch analyses from three non-consecutive batches of Rhiza mycoprotein:

Table 7. Batch Analyses

Analyte	**Typical Value**	**Lot 2021081009kLB**	**Lot 202110309kLB**	**Lot 2021111709kLB**
Ash	<10%	6.88%	6.48%	7.07%
Moisture	<11% in dry form	6.36%	5.48%	7.07%
Protein	>40%	41.80%	46.20%	47.80%
Total Coliform	<10 CFU/g	<10 CFU/g	<10 CFU/g	<10 CFU/g
E. coli	<10 CFU/g	<10 CFU/g	<10 CFU/g	<10 CFU/g
Enterobacteriaceae	<10 CFU/g	<10 CFU/g	<10 CFU/g	<10 CFU/g
Listeria monocytogenes	Negative/25 grams	Negative/25 grams	Negative/25 grams	Negative/25 grams
Mold	<10 CFU/g	<10 CFU/g	<10 CFU/g	<10 CFU/g
Salmonella	Negative/25 grams	Negative/25 grams	Negative/25 grams	Negative/25 grams
Yeast	<10 CFU/g	<10 CFU/g	<10 CFU/g	<10 CFU/g
Arsenic	<0.1 ppm	0.0193 ppm	0.0211 ppm	0.0145 ppm
Lead	<0.1 ppm	0.0149 ppm	0.0119 ppm	0.0141 ppm
Mercury	<0.1 ppm	<0.00001 ppm	<0.01 ppm	<0.004 ppm
Cadmium	<0.1 ppm	0.0368 ppm	0.045 ppm	0.044 ppm

5. Absence of Mycotoxins

N. crassa has never been reported to produce mycotoxins. Extensive genetic information is available from 80 years of research of this fungus and there are no known mycotoxin coding

genes in this genome. Furthermore, BMC undertook additional genetic analyses using a third party, which also demonstrated that the species does not produce mycotoxins; the genome does not have any known toxin coding genes and a targeted genomic analysis of toxins did not detect genetic potential to produce toxins (Part 6.5).

To further confirm the absence of mycotoxins in the final Rhiza mycoprotein product, BMC tested three non-consecutive batches of Rhiza mycoprotein for the potential presence of various mycotoxins. The following mycotoxins were not detected (ND) in the samples; limits of detection are indicated in parenthesis: aflatoxin B1 (ND at 1.3 ppb), aflatoxin B2 (ND at 1.2 ppb), aflatoxin G1 (ND at 1.1 ppb), aflatoxin G2 (ND at 1.6 ppb), fumonisin B1 and B2 (ND at 0.1 ppm), ochratoxin (ND at 1.1 ppb), tricothecene (ND at 0.2 ppm), deoxynivalenol (ND at 0.2 ppm), acetyldeoxynivalenol (ND at 0.1 ppm), and zearalenone (ND at 51.7 ppb).

Part 3. Estimated Consumption of *N. crassa* biomass

Rhiza mycoprotein is intended to be used as a food ingredient in meat, poultry, seafood and meat/poultry/seafood alternative products. It may also be used in dairy analog products. The proposed uses and their corresponding use levels are provided in **Table 8** below on a dry weight basis.

Table 8. Proposed Food Uses of Rhiza Mycoprotein

Food Category	**Max use level (**Rehydrated basis)
Plant based meat analogs	90%
Meat extenders	50%
Dairy analogs (*e.g.*, milk alternatives, cheese, cream cheese, coffee creamer, frozen dessert, yogurt, whipped topping)	15%

To determine the estimated consumption of the product, BMC commissioned Exponent, Inc (Exponent) to conduct a dietary intake assessment. Specifically, Exponent's report analyzed the total daily intake of Rhiza mycoprotein for use in three categories: plant-based meat analogs, ground/minced/chopped meats, and dairy analogs (including milk alternatives, cheese, cream cheese, coffee creamer, frozen dessert, yogurt and whipped topping).

The estimated daily intake (EDI) was based on food consumption records collected in the What We Eat in America (WWEIA) component from the 2015-2018 National Health and Nutrition Examination Survey (NHANES).

We note that the inclusion rates for the dietary exposure analysis are based on rehydrated Rhiza mycoprotein, which is approximately 2.5 times the mass of dry Rhiza mycoprotein by weight. Accordingly (as shown in **Table 9** below), the average and 90^{th} percentile estimated daily intake for users from all proposed food uses among the U.S. population at or over 2 years old is 18.5 and 40.2 g/day on a dry basis (mean 46.2/2.5 = 18.5 g/day; 90^{th} 100.4/2.5 = 40.2 g/day dietary exposure on a dry basis).

Table 9: Two-day Average EDI from All Proposed Food Uses among the U.S. Population 2+ y and Subpopulations

			Per User (g/day)			
Population	**N**	**% User**	**Mean (hydrated ingredient basis)**	**90th Percentile (hydrated ingredient basis)**	**Mean (dry ingredient basis)**	**90th Percentile (dry ingredient basis)**
U.S. 2+ years (y)	10,730	86	46.2	100.4	18.5	40.2
Children 2-6y	1,056	86	35.3	75.4	14.1	30.2
Children 7-12y	1,342	89	43.4	88.2	17.4	35.3
Adolescents 13-18y	1,218	88	46.9	102.6	18.8	41.0
Adults 19+y	7,114	86	47.3	103.8	18.9	41.5

Part 4. Self-Limiting Levels of Use (21 C.F.R. § 170.240)

The use of the Rhiza mycoprotein as a food is not limited by the level that can technically be added to a given food without jeopardizing its quality and consumer acceptability.

Part 5. Experience based on common use in food before 1958

While the basis for this GRAS Notice is scientific procedures, rather than common use in food, we note that *Neurospora*, and *N. crassa* in particular, has an extensive history of use in food that is corroborative of its safety.

A. Indonesia

Oncom (also spelled as onchom or ontjom) is a traditional West Javanese fermented food that has been consumed for centuries. Oncom is largely made from peanut presscake or okara and inoculated with *Neurospora* conidia (Shurtleff and Aoyagi, 1979). Various published works have reported isolating mainly *N. crassa*, *N. intermedia*, and/or *N. sitophila* from oncom, underlining the similarity of these *Neurospora* species and the safety of the *Neurospora* genus as a whole (Starznska-Janiszewska *et al.*, 2017; Djuhdia *et al.*, 2002; Owens, 2015). Specifically, after peanuts are pressed to produce peanut oil, the remaining defatted solids offer potential nutrition (*i.e.*, protein, fiber); however, the taste of the defatted peanut solids is unappealing. The West Javanese developed a method of fermenting the presscake with *Neurospora* to produce a more appealing, digestible, and flavorful food product (Winarno, 1979). In the traditional process, the substrate is incubated for several days and inverted after 24 hours to promote thorough infiltration of the mycelium (Owens, 2015). *Neurospora* binds the plant fiber together and grows through the press cake, covering the press cake and resulting in a spongy texture. Indeed, *Neurospora* is a large component of the oncom product (Owens, 2015). The Dutch researcher F.A. Went, noted above as having identified the organism as *M. sitophilia*, described oncom in his writings as early as 1901 (Perkins, 1992).

Today oncom has evolved from a food consumed out of necessity to a staple in the West Java region, consumed in the daily diet of approximately 25 million people according to one estimate (Winarno, 1979). Oncom today is generally purchased fresh at a marketplace and then deep fried and served as a meat analogue (Winarno, 1979). It may also be served as chips, topped with a sauce, or put in soups.

B. China

Soybean dregs that are fermented with *N. crassa* are a traditional food in the Gannan district of China (Zhou *et al.*, 2019). Soybean dregs are a cheap by-product of the soybean milk and bean curd manufacturing industry. Soybean dregs are widely available and are estimated to be approximately 20 million tons annually in China (Zhou *et al.*, 2019). Most soybean dregs are used directly as animal feed, however, in the Gannan district of China, fermented soybean dregs with *N. crassa* are widely consumed by humans. The fermented soybean dregs are traditionally fried with or without pork. When fermented by *N. crassa*, the soybean dregs soften and the nutrient content changes to increase the relative amount of protein, lower the fat, and increase the soluble saccharides (Zhou *et al.*, 2019).

C. Brazil

Neurospora has also been used by indigenous people in Brazil to process cassava in preparing a traditional fermented beverage (Perkins *et al.*, 2000). Specifically, *Neurospora* is a

fermentation organism in beiju, a naturally fermented cassava starter mass used to make a fermented alcoholic beverage known as tiquira (Marney *et al.,* 2014).

Tiquira is a traditional cassava beverage from the Brazilian state of Maranhão. During its preparation, beiju is sprinkled with water and coated with leaves to maintain adequate moisture and encourage the growth of microorganisms. The mass is used as the starter to ferment the finished beverage. The fungi that develop on beiju have been extensively studied and include *N. crassa*, which is responsible for starch saccharification. *Neurospora* is credited with providing the finished beverage a pleasant and fruity aroma (Marney *et al.,* 2014).

D. France

Neurospora has been identified as one of the organisms regularly present in Roquefort cheese when prepared by traditional methods in Southern France (Perkins *et al.,* 2000). Roquefort, which has been produced in Southern France for hundreds of years, is a cave-aged blue cheese produced with sheep's milk and known for its pungent flavor. While *Penicillium roqueforti* is the mold that is understood to provide Roquefort with its distinctive aroma, traditional production processes are known to have included other microorganisms in the fermentation process.

Part 6. GRAS Notice Narrative

1. Overview

BMC's Rhiza mycoprotein is intended for use as an ingredient in meat alternative products and as an extender and replacer in meat, poultry, and seafood products. It may also be used in dairy analog products. The ingredient is composed of pasteurized mycelial biomass of *N. crassa* and is expected to be marketed in both hydrated and dehydrated forms (differing only in relative moisture content).

We are not aware of any adverse effects associated with the consumption of *N. crassa.* In fact, data demonstrates that Rhiza mycoprotein is not only safe, but also a good source of protein and dietary fiber.

2. Animal Data

Several studies have investigated the effects of introducing *N. crassa*-fermented plant-based food by-product substrates in the feed of egg laying hens, and found it to be safe and beneficial (Latif, 2009; Liu *et al.*, 2016; Rizal *et al.*, 2015; Ternak, 2008). Given the nature of how *N. crassa* grows by breaking down plant material to build its own mass, and physically within the plant substrate, these products contain significant amounts of *N. crassa* biomass. The use of *N. crassa* fermented foods generally improved the nutritional profile of the layer feed. Importantly, no deleterious side effects to the health of the hens were detected. In one case, reduction of cholesterol in the eggs produced was documented (Ternak, 2008).

An additional study in dwarf goats tracked blood chemistry after feeding the animals a *N. crassa*-fermented maize cob and husk-based diet (Ibhaze *et al.*, 2021). Again, no adverse health effects were observed. Conversely, a diet of *N. crassa* cultivated on maize supported erythropoiesis (red blood cell production) and improved serum electrolytes.

Soy is a globally important crop with about 77% being used for animal feed (Ritchie and Roser, 2021). Fermentation of soybean meal with *N. crassa* has been shown to increase free amino acids in the foodstuff 13-fold and improve its digestibility by 37.97% (Li *et al.*, 2019). In the same study, soy allergens, which are known to affect humans and animals, were decreased to an undetectable level. Additional studies on *N. crassa* fermented soy by-products have been carried out to investigate the effects of the fermented foods on rat and mice digestive systems (Huang *et al.*, 2022; Yu *et al.*, 2020). Soluble dietary fiber from *N. crassa* fermented soybean residue was fed to rats and found to positively alter the intestinal microbiome of the animals, increasing the prevalence of beneficial species such as Prevotellaceae and Lactobacillales (Yu *et al.*, 2020). This work was extended to mice to investigate a potential therapeutic use for these polysaccharides against colitis. The mice were subjected to dextran sulfate sodium (DSS) induced colitis and treated with *N. crassa* fermented soy residue fiber. As a result of this treatment, the health of the gut barrier, colon, liver, spleen, and kidney of the mice was restored. A decrease in pro-inflammatory cytokines was observed in the treated mice, as well as an increase in inflammatory repressors. Tight junction associated proteins were also upregulated in the mice, facilitating the repair of damaged gut barrier endothelial cells. Detailed taxonomic analysis of the gut flora was carried out and revealed that DSS-induced colitis led to a dramatic

increase in opportunistic pathogens in the gut which was restored by treatment with *N. crassa* fermented soy residue fiber (Huang *et al*., 2022).

3. Digestibility

The digestibility of Rhiza mycoprotein was determined through a human digestion simulation. The testing was performed by Medallion Labs, following the method reference described in *US Patent Application No. 14/599,050: Method for Estimating In Vivo Protein Digestibility, Plank, DW*. This method involved enzymatically digesting a sample of Rhiza mycoprotein to simulate both gastric and intestinal digestion. The enzyme pepsin was used to simulate the gastric phase, and trypsin/chymotrypsin was used for the intestinal phase. Once the sample proteins were broken down into amino acids, they were reacted with Ninhydrin and measured to determine digestibility. A score of 1.00 indicates the highest digestibility score possible. A score of 0.99-1.00 was measured for Rhiza mycoprotein on the three tests performed on nonconsecutive batches.

4. Published Safety Assessment of BMC *N. Crassa*

There is a long history of human consumption of *Neurospora* cultivated on plant solids, or in fermented foods, and the use of similar foodstuff in research. However, to our knowledge, no studies have been conducted to establish safety of *Neurospora* isolated mycelium as a stand-alone food product. To address this a series of analyses of *N. crassa* were conducted. The results of these allergenicity and toxigenicity studies were published in a peer reviewed publication (Bartholomai *et al.*, 2022). All analyses indicate that *N. crassa* mycoprotein should be generally regarded as a safe, common allergen-free, and nutritious foodstuff. These analyses are summarized below.

a. Allergenicity

To investigate the potential of *N. crassa* food ingredients to elicit allergic reactions, the *N. crassa* genomic protein coding sequences were interrogated to detect signatures of proteins that may induce an allergic reaction. Two independent analyses were conducted using the gold standard collection of allergens curated by Food Allergy Research and Resource Program (FARRP) AllergenOnline database (Goodman *et al.*, 2016). The first method employed a stepwise bioinformatics approach incorporating machine-learning methods (including support vector machine (SVM)-based methods), and sequence homology-based methods. The second method compared all predicted protein sequences in the *N. crassa* reference genome to the AllergenOnline database. Those sequences were then manually compared to the public version of the AllergenOnline database to identify the individual potential allergens of interest. To judge potential risks, sequence homology searches were also conducted against the NCBI non-redundant protein database. The published *N. crassa* genome (NCBI RefSeq: GCF_000182925.2) was used to assess allergenic potential.

The peptides encoded by the predicted coding regions of the *N. crassa* genome were assessed for potential allergenicity using a stepwise approach in which allergenic protein prediction was accomplished using the hybrid model of Algpred 2.0. Of the 10,813 total proteins,

3,033 were predicted to be allergenic using Algpred 2.0. To refine the allergenic protein predictions from Algpred 2.0 and eliminate potential false positive results, the 3,033 predicted allergenic proteins were further evaluated using sequence homology searches against manually annotated non-allergens from the UniprotKB/Swiss-Prot database. 940 of the 3,033 predicted allergenic proteins shared significant sequence homology with non-allergens from the UniprotKB/Swiss-Prot database. The remaining 2,093 predicted allergenic proteins were further evaluated using sequence alignment searches against allergenic proteins from the AllergenOnline database (Version 21) using the 80-amino acid sliding window approach. Of the remaining 2,093 predicted allergenic proteins, 52 were identified that shared >35% identity over 80 amino acids with at least 1 allergen from AllergenOnline. Twenty-two of these 52 proteins shared >35% identity over 80 amino acids with at least 1 allergen derived from wheat, however no exact matches were reported over 9 amino acids and no full-length alignments meeting the criteria for a significant hit (>45% identity, ≥50% query coverage, and an E-value $<1 \times 10^{-16}$) were identified. As such, these findings indicate *N. crassa* is unlikely to pose a risk of eliciting an immunological response in consumers with celiac disease.

Five unique proteins found in the *N. crassa* genome shared significant sequence homology (proteins sharing >50% identity over the full sequence with E-values $<1x10^{-7}$ with a known allergen) with at least 1 allergen from AllergenOnline. Each of these five unique predicted proteins found in the *N. crassa* genome was subjected to sequence homology searches against the non-redundant protein database maintained by the NCBI. Four of the unique proteins from *N. crassa*, two hypothetical proteins (EAA31448 and EAA29172), a predicted pectate lyase enzyme (ESA42917), and a heat shock protein (ESA43073) shared significant sequence homology with minor allergens (*i.e.*, not one of the 9 major sources of food allergens) but also shared significant sequence homology with proteins from many other species (at least 100 different taxa, each). As such, these proteins would be considered evolutionarily conserved and are therefore unlikely to pose a significant risk of allergenicity.

The last unique protein, another hypothetical protein (ESA43431), shared significant sequence homology with 3 allergens from wheat. Although wheat is a source of major allergens, the sequence alignments were only considered borderline matches as they did not meet the significance criteria of E-values $<1 \times 10^{-7}$. Significant sequence homology was not identified with proteins from other taxa from the non-redundant protein search; however, upon review of the actual alignments between the hypothetical protein found in *N. crassa* (ESA43431) and the matched wheat allergens, the alignments were mainly due to a lengthy poly-Q (glutamine) domain on the hypothetical protein consisting of 93 contiguous glutamine residues. However, the hypothetical protein from *N. crassa* did not contain the key allergenic motif found in wheat allergens of repetitive sequences of 6 to 8 amino acid residues consisting of both proline and glutamine. Therefore, it is unlikely that this protein would pose an allergenicity risk.

In addition to the stepwise approach for assessing allergenicity in which 2,093 proteins were compared to the AllergenOnline database, all of the peptides encoded by the predicted coding regions of the *N. crassa* genome were examined using sequence alignment searches against the AllergenOnline database (Version 21). These searches were employed to determine whether any of the matched allergens would truly constitute a realistic allergenic risk for *N. crassa* mycoprotein as a food ingredient. Of the 10,813 proteins from the *N. crassa* genome, 192

proteins scored matches greater than 35% identity over 80 amino acids to one or more allergens in the database. Many of the potential allergens of interest from the AllergenOnline database were enzymes, the listing criteria for which was limited to in vitro IgE binding without evidence of clinical allergic reactions or reactivity in human basophils or skin prick tests. In addition, the identified proteins from *N. crassa* that shared sequence homology with proteins from the AllergenOnline database generally shared significant sequence homology with many other proteins derived from diverse sources. In all cases, either the matched allergen from AllergenOnline has not been demonstrated to elicit clinically relevant allergenicity or shares significant sequence homology with proteins across a diverse range of species. Taken together, no evidence was identified which suggests that proteins from *N. crassa* represent any risk to consumers that is not matched by the equal low-level identity matches from widely diverse taxa of divergent organisms.

b. Toxigenicity

N. crassa has been cultivated for food and used extensively as a model organism without any reported cases of toxigenicity or pathogenicity to humans, animals or plants. To further substantiate this information and investigate the safety profile of *N. crassa* mycoprotein as a food ingredient, comprehensive *in silico* and *in vitro* analyses of the organism were conducted. First, samples of dried *N. crassa* mycoprotein were analyzed for the presence of known mycotoxins. Next, extensive bioinformatics analyses were employed, using a weight-of-evidence approach to interrogate the *N. crassa* genome for the presence of potential toxin-coding genes. These analyses incorporated sequence homology searches, phenotype prediction tools from Center for Genomic Epidemiology (National Food Institute, Technical University of Denmark, CGE), proteome comparisons with GRAS strains, and a search of the publicly available scientific literature.

N. crassa mycoprotein samples were tested for the presence of the most common food-borne mycotoxins Aflatoxin, Fumonisin, Ochratoxin, Tricothecene, Vomitoxin, Zearalenone using specific immunoassays for each molecule (Medallion Labs). These toxins are produced by members of the Aspergillus, Fusarium, Gibberella, Myrothecium, Trichoderma, Trichothecium, Cephalosporium, Verticimonosporium, and Stachybotrys genera. As indicated, production of mycotoxins has not been reported in any Neurospora species; therefore, this analysis was conducted out of an abundance of caution. As expected, none of three independent samples, from three different batches, had detectable levels of any of the toxins.

The *N. crassa* genome was published in 2003 (Galagan *et al*., 2003) and is one of the most well-studied and thoroughly annotated fungal genomes. The reference genome for in silico analysis was used to assess the toxicological potential of *N. crassa* food ingredients. The reference genome for *N. crassa* contains approximately 41 million base pairs with 10,813 protein coding regions. The peptides encoded by the predicted protein coding regions of the *N. crassa* genome were assessed for potential toxigenicity using sequence homology searches of annotated protein toxins from the UniProt database of animal venom proteins and toxins, followed by phenotype prediction tools (ToxFinder 1.0, VirulenceFinder 2.0, and PathogenFinder 1.1) hosted by the CGE, and a proteome sequence-based genome comparison with 10 GRAS strains (9 bacterial strains and the filamentous fungus *F. venenatum*). Of the 10,813 proteins encoded by predicted coding regions from the *N. crassa* genome, 5 proteins were identified that shared

significant sequence homology with documented protein toxins from the UniProtKB/Swiss-Prot database were identified using BLASTP. The matched venom proteins or protein toxins included delta-latroinsectotoxin Lt1a from Latrodectus tredecimguttatus, several calglandulin proteins derived from multiple organisms, disintegrin-like proteins (disintegrin-like halysetin and zinc-metalloproteinase disintegrin) from Gloydius halys and Gloydius brevicaudus, and several translationally controlled tumor protein (TCTP) homologs derived from multiple organisms.

Although delta-latroinsectotoxin Lt1a is a known neurotoxin, it selectively affects insect neurons which is not relevant for the safety of humans (Garb and Hayashi, 2013). In addition, the shared sequence homology between delta-latroinsectotoxin Lt1a and the ankyrin repeat protein (EAA34799) and hypothetical protein (EAA27407) from *N. crassa* had low query coverage and narrowly exceeded the percent identity threshold of 40% established by Pearson (2013). Given that this toxin has not been shown to exhibit effects on vertebrate neurons and the degree of sequence homology between the proteins from *N. crassa* was low, it should not be considered to pose a safety concern to humans.

Calglandulins and calglandulin-like proteins are implicated in the secretion of other toxins from the glands of venomous snakes but have not been found in the crude venom, suggesting that they are used in the production of venoms and likely play a role in the secretion of toxins from the venom glands (Junqueira-de-Azevedo Ide *et al.*, 2003; St Pierre *et al.*, 2005). As such, they are unlikely to elicit any toxic action when produced outside of venom glands. Therefore, the calmodulin A (EAA32040) from *N. crassa* that shares significant sequence homology with calglandulin proteins derived from multiple organisms is unlikely to pose a safety concern for humans.

The family of related disintegrin proteins (broadly categorized as the disintegrin and metallopeptidase family) can inhibit the action of the human integrin family of proteins which play a role in cell migration and adhesion (Liu *et al.*, 2000; Selistre-de-Araujo *et al*., 2010). Disintegrins are functionally characterized based on their ability to bind specific integrins and are categorized based on specific motifs indicative of their integrin binding activity (Arruda Macêdo *et al.*, 2015; David et al., 2018). Although the ADAM protease ADM-B (EAA34439) from *N. crassa* does contain the KTS motif, one of the defining features of R/KTS disintegrins, these disintegrins are short, monomeric peptides of approximately 41 amino acids in length. When compared to the length of the ADAM protease ADM-B from *N. crassa* of 841 amino acids, it is unlikely that this protein would be functionally categorized as a disintegrin. This is further supported by the low query coverage (15% each) between the ADAM protease ADM-B and the disintegrin-like halysetin and zinc metalloproteinase/disintegrin. Overall, this protein found in the *N. crassa* genome is unlikely to pose a safety concern to humans.

TCTP homologs are a family of proteins with histaminergic activity and have been found in the crude venom of brown spiders (Loxosceles intermedia) (Sade *et al.*, 2012). When administered subcutaneously, TCTP homologs may contribute to edema, increased vascular permeability, and inflammatory responses (Sade *et al.*, 2012); however, TCTP and its homologs are highly conserved housekeeping proteins present in eukaryotic organisms (Thaw *et al*., 2001; Li *et al.*, 2016). Although TCTP homologs may elicit inflammatory responses upon subcutaneous injection, this is unlikely to pose a safety concern for *N. crassa* mycoprotein which is intended for consumption as a food ingredient. In addition, the highly conserved nature of this

protein among eukaryotic species suggests that it does not pose a significant safety concern to humans. This is further supported by the significant sequence homology identified between this hypothetical protein (EAA28119) from *N. crassa* with an unnamed protein product from F. venenatum.

Finally, to further explore the potential for the 5 identified proteins from *N. crassa* that share significant sequence homology with documented toxins to pose a safety concern for humans, the digestibility of these proteins was investigated using PeptideCutter. The full-length peptide sequences of the Ankyrin repeat protein (EAA34799), Calmodulin A (EAA32040), Hypothetical protein (EAA27407), ADAM protease ADM-B (EAA34439), and Hypothetical protein (EAA28119) were searched with PeptideCutter for pepsin (pH >2.0) and trypsin digestions. Overall, these results demonstrate that each of these proteins from *N. crassa* are extensively digested by pepsin and trypsin with average lengths of the resulting cleaved peptides ranging from 2.83 to 4.73 amino acid residues. As such, this provides evidence to suggest that these proteins would be readily digested by gastric enzymes upon ingestion and would therefore be unlikely to pose a toxigenic risk to consumers of *N. crassa* mycoprotein.

To further assess digestibility, *N. crassa* mycoprotein was subjected to in vitro mammalian digestion simulation using the method described in US Patent No. 9,738,920 (Medallion Labs). This method utilizes pepsin and trypsin to digest samples, which simulates gastric and intestinal digestion, respectively. The hydrolyzed protein is spectroscopically analyzed to measure the proportion of free amino acids released from the protein containing sample. These values were measured for three independent mycoprotein production batches and compared to the total amount of protein in the samples, which showed in vitro digestibility scores of 1, 1, and 0.99. As such, both the in silico and in vitro analysis suggest that, along with other *N. crassa* proteins, the 5 proteins described above would be readily digested upon ingestion and would therefore be unlikely to pose a toxigenic risk to consumers of *N. crassa* mycoprotein.

Table 10: Digestibility Analysis

Lot Number	Digestibility Score
210322.250L	1.00
210503.250L	1.00
210510.250L	0.99

In addition to the low toxigenic risk indicated by in vitro and in silico analyses, no evidence was identified in the publicly available scientific literature suggesting that *N. crassa* poses a risk of toxigenicity (i.e., produces mycotoxins, secondary metabolites, or documented toxins). Similar analysis has been performed for the filamentous fungi *F. venenatum* and Fusarium str. flavolapis which are both organisms that have been notified to the U.S. FDA as GRAS for their intended uses in food and are broadly available to consumers as whole mycelial biomasses. Despite the propensity of Fusarium species to produce toxins, unlike Neurospora, these species did not produce toxins at levels high enough to have any deleterious effects in preclinical studies. *F. venenatum*, which has been part of the food system in the United States

since 2002, has not been reported in any mycotoxin related food poisoning instances. Interestingly another fungal species known to be both a human pathogen and producer of mycotoxins, Aspergillus fumigatus was tested as a mycoprotein food product on rats and despite some flaws in experimental design related to apparent palatability of the feed, there was no histopathology observed in any of the subjects (Khor *et al.,* 1977). In general, data from studies of several species of filamentous fungi used as mycoprotein in foods suggest that they are safe for consumption and free of toxins at concentrations high enough to have adverse health effects.

5. Summary of Basis for GRAS Determination

BMC's conclusion as to Rhiza mycoprotein is that there is general recognition of safety for the intended uses based on the information summarized above. Specifically, Rhiza mycoprotein is a nutritious food with high digestibility that does not pose a risk of allergenicity nor toxicity. *N. crassa* is akin to other common fungi in the human diet. The long history of safe consumption of *Neurospora* as food in other countries serves as corroboration of the GRAS position based on scientific procedures.

* * *

Based on the documentation provided in this GRAS Notice, and as discussed above, The Better Meat Co. has concluded that its Rhiza mycoprotein is GRAS based on scientific procedures for use as a meat analog and as an extender and replacer in meat (including pork), poultry, seafood, and dairy products.

Part 7. List of supporting data and information

a. References

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b. Attachments

1-Medallion Labs: Analytical Compositional Testing Report

2-Food Allergy Research and Resource Program at University of Nebraska – Lincoln: Allergenicity Report

3-E^{x}ponent: Estimated Daily Intake Report

4-Medallion Labs: Digestibility Study and PDCAAS Study

5-IEH Laboratories & Consulting Group: Certificate of Vitamin Analysis

c. Appendix 1

Suitability Data for use of *Neurospora crassa* in Meat and Poultry Products (for FSIS)

Medallion Labs
www.medallionlabs.com 800-245-5615 info@medlabs.com

Order Number: **2021-011794**

Completed Date: 03-Dec-2021

Submitted Date: 18-Nov-2021

Submitter: Katherine Ruwe

Company: The Better Meat Co.

Company Address: 2939 Promenade St
West Sacramento, CA 95691

Results Email: katherine.ruwe@bettermeat.co

Invoice Email: accounting@bettermeat.co

Purchase Order: 211111DC04

Order # Sample ID:	2021-011794-01	**Company:**	The Better Meat Co.
Customer Sample ID:	202110309kLB		
Sample Description:	Dried protein ingredient.		

Analytical Testing

Method:	Component:	Result:	Test Date:
[1] [2] Aflatoxin LCMS	Aflatoxin B1	<1.3 ppb	03-Dec-2021
	Aflatoxin B2	<1.2 ppb	03-Dec-2021
	Aflatoxin G1	<1.1 ppb	03-Dec-2021
	Aflatoxin G2	<1.6 ppb	03-Dec-2021
Ash	Ash	6.478 %	01-Dec-2021
[2] Calories	Calories	369 Calories/100 g	01-Dec-2021
	Calories, 2020	241 Calories/100 g	01-Dec-2021
	Calories from Fat	30 Calories/100 g	01-Dec-2021
	Calories from Saturated Fat	6 Calories/100 g	01-Dec-2021
	Calories (Insoluble Fiber Subtracted)	246 Calories/100 g	01-Dec-2021
[2] Carbohydrates	Carbohydrates	38.5 %	01-Dec-2021
Cholesterol	Total Cholesterol	<1.0 mg/100g	24-Nov-2021
Fat (Gas Chromatography)	Total Fat	3.32 %	24-Nov-2021
	Saturated Fat	0.65 %	24-Nov-2021
	Monounsaturated Fat	0.76 %	24-Nov-2021
	cis-cis Polyunsaturated Fat	1.78 %	24-Nov-2021
	trans Fat	<LOQ %	24-Nov-2021
Fiber (AOAC 991.43)	Insoluble Dietary Fiber	30.7 %	30-Nov-2021
	Soluble Dietary Fiber	2.4 %	30-Nov-2021
	Total Dietary Fiber	33.1 %	30-Nov-2021
[1] [2] Fumonisin LCMS	Fumonisin B1	<0.1 ppm	03-Dec-2021
	Fumonisin B2	<0.1 ppm	03-Dec-2021

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Order # Sample ID:	2021-011794-01	**Company:**	The Better Meat Co.
Customer Sample ID:	202110309kLB		
Sample Description:	Dried protein ingredient.		

Analytical Testing

Method:	Component:	Result:	Test Date:
[1] [2] Fumonisin LCMS	Fumonisin B3	<0.1 ppm	03-Dec-2021
[1] [2] Mercury	Mercury	<10 ppb	29-Nov-2021
Metals (ICP-MS)	Arsenic	21.1 ppb	01-Dec-2021
Metals (ICP-MS)	Cadmium	45.0 ppb	01-Dec-2021
Metals (ICP-MS)	Lead	11.9 ppb	01-Dec-2021
Metals (ICP-OES)	Calcium	73.0 mg/100g	01-Dec-2021
Metals (ICP-OES)	Iron	10.8 mg/100g	02-Dec-2021
Metals (ICP-OES)	Potassium	1470 mg/100g	01-Dec-2021
Metals (ICP-OES)	Sodium	53.3 mg/100g	01-Dec-2021
Moisture by Vacuum Oven	Moisture	5.483 %	23-Nov-2021
[1] [2] Ochratoxin LCMS	Ochratoxin A	<1.1 ppb	03-Dec-2021
Protein	Protein Factor	6.25	23-Nov-2021
	Protein	46.2 %	23-Nov-2021
[1] [2] T2/HT2 Toxin LCMS	T-2 Toxin	<25.0 ppb	03-Dec-2021
	HT-2 Toxin	<25.0 ppb	03-Dec-2021
[1] [2] Vomitoxin LCMS	Deoxynivalenol (Vomitoxin)	<0.1 ppm	03-Dec-2021
	Acetyldeoxynivalenol	<0.1 ppm	03-Dec-2021
[1] [2] Zearalenone LCMS	Zearalenone	<51.7 ppb	03-Dec-2021

Micro Testing

Method:	Component:	Result:	Test Date:
Aerobic Plate Count using PCA	Aerobic Plate Count	10 est. CFU / g	22-Nov-2021
Coliform using Petrifilm	Coliform count	<10 CFU / g	19-Nov-2021
E. coli using Petrifilm	E. coli	<10 CFU / g	24-Nov-2021

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Order # Sample ID: 2021-011794-01 **Company:** The Better Meat Co.

Customer Sample ID: 202110309kLB

Sample Description: Dried protein ingredient.

Micro Testing

Method:	Component:	Result:	Test Date:
Enterobacteriaceae	Enterobacteriaceae count	<10 CFU / g	19-Nov-2021
Lactic acid bacteria	Lactic acid bacteria	<10 CFU / g	22-Nov-2021
Listeria monocytogenes by ELFA	Listeria monocytogenes	Negative / 25 grams	23-Nov-2021
Mold using DRBC	Mold	<10 CFU / g	23-Nov-2021
Salmonella by ELFA	Salmonella	Negative / 25 grams	19-Nov-2021
Yeast using DRBC	Yeast	<10 CFU / g	23-Nov-2021

Results Approved By: Jamie Reese
(Authorized Reviewer)

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Analytical Method References:

Method Name	Method Reference
Aflatoxin LCMS	Please contact for Method Details
Ash	AOAC: 923.03*
Calories	Internal Calculation
Carbohydrates	Internal Calculation
Cholesterol	AOAC: 976.26*
Fat (Gas Chromatography)	AOAC: 996.06*
Fiber (AOAC 991.43)	AOAC: 991.43*
Fumonisin LCMS	Please contact for Method Details
Mercury	Please contact for Method Details
Metals (ICP-MS)	AOAC: 993.14*, AOAC: 2015.06*
Metals (ICP-OES)	AOAC: 975.03*, 985.01*, 984.27*, 2011.14*
Moisture by Vacuum Oven	AOAC: 945.43*, 934.01*
Ochratoxin LCMS	Please contact for Method Details
Protein	AACC 46-30*; AOAC 992.15*
T2/HT2 Toxin LCMS	Please contact for Method Details
Vomitoxin LCMS	Please contact for Method Details
Zearalenone LCMS	Please contact for Method Details

[1] This analysis is performed by a partner lab.

[2] This test is not considered in-scope of our current A2LA accreditation. For a listing of in-scope tests, please visit www.medallionlabs.com.

Micro Method References:

Method Name	Method Reference
Aerobic Plate Count using PCA	FDA BAM CH 3*
Coliform using Petrifilm	AOAC 991.14
E. coli using Petrifilm	AOAC 991.14
Enterobacteriaceae	Compendium
Lactic acid bacteria	Compendium*
Listeria monocytogenes by ELFA	AOAC 2013.11*
Mold using DRBC	FDA BAM CH 18*, Compendium*
Salmonella by ELFA	AOAC 2013.01*
Yeast using DRBC	FDA BAM CH 18*, Compendium*

* This method has been modified.

[1] This analysis is performed by a partner lab.

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Order Number:	**2021-012659**	**Completed Date:**	28-Dec-2021
		Submitted Date:	15-Dec-2021
Submitter:	Katherine Ruwe		
Company:	The Better Meat Co.		
Company Address:	2939 Promenade St West Sacramento, CA 95691		
Results Email:	katherine.ruwe@bettermeat.co		
Invoice Email:	accounting@bettermeat.co		
Purchase Order:	211130DC07		

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Order # Sample ID:	2021-012659-01	**Company:**	The Better Meat Co.
Customer Sample ID:	2021111709kL2		
Sample Description:	Dried protein ingredient		

Analytical Testing

Method:	Component:	Result:	Test Date:
[1] [2] Aflatoxin LCMS	Aflatoxin B1	<1.3 ppb	28-Dec-2021
	Aflatoxin B2	<1.2 ppb	28-Dec-2021
	Aflatoxin G1	<1.1 ppb	28-Dec-2021
	Aflatoxin G2	<1.6 ppb	28-Dec-2021
Ash	Ash	7.068 %	22-Dec-2021
[2] Calories	Calories	361 Calories/100 g	28-Dec-2021
	Calories, 2020	253 Calories/100 g	28-Dec-2021
	Calories from Fat	32 Calories/100 g	28-Dec-2021
	Calories from Saturated Fat	5 Calories/100 g	28-Dec-2021
	Calories (Insoluble Fiber Subtracted)	260 Calories/100 g	28-Dec-2021
[2] Carbohydrates	Carbohydrates	34.6 %	28-Dec-2021
Cholesterol	Total Cholesterol	<1.0 mg/100g	22-Dec-2021
Fat (Gas Chromatography)	Total Fat	3.50 %	22-Dec-2021
	Saturated Fat	0.61 %	22-Dec-2021
	Monounsaturated Fat	0.71 %	22-Dec-2021
	cis-cis Polyunsaturated Fat	2.02 %	22-Dec-2021
	trans Fat	<LOQ %	22-Dec-2021
Fiber (AOAC 991.43)	Insoluble Dietary Fiber	25.2 %	28-Dec-2021
	Soluble Dietary Fiber	3.6 %	28-Dec-2021
	Total Dietary Fiber	28.8 %	28-Dec-2021
[1] [2] Fumonisin LCMS	Fumonisin B1	<0.1 ppm	28-Dec-2021
	Fumonisin B2	<0.1 ppm	28-Dec-2021

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Order # Sample ID:	2021-012659-01	**Company:**	The Better Meat Co.
Customer Sample ID:	2021111709kL2		
Sample Description:	Dried protein ingredient		

Analytical Testing

Method:	Component:	Result:	Test Date:
[1] [2] Fumonisin LCMS	Fumonisin B3	<0.1 ppm	28-Dec-2021
Metals (DMA)	Mercury	<4.00 ppb	20-Dec-2021
Metals (ICP-MS)	Arsenic	14.5 ppb	17-Dec-2021
Metals (ICP-MS)	Cadmium	44.0 ppb	17-Dec-2021
Metals (ICP-MS)	Lead	14.1 ppb	17-Dec-2021
Metals (ICP-OES)	Calcium	47.7 mg/100g	22-Dec-2021
Metals (ICP-OES)	Iron	10.4 mg/100g	22-Dec-2021
Metals (ICP-OES)	Potassium	1620 mg/100g	22-Dec-2021
Metals (ICP-OES)	Sodium	43.9 mg/100g	22-Dec-2021
Moisture by Vacuum Oven	Moisture	7.068 %	23-Dec-2021
[1] [2] Ochratoxin LCMS	Ochratoxin A	<1.1 ppb	28-Dec-2021
Protein	Protein Factor	6.25	22-Dec-2021
	Protein	47.8 %	22-Dec-2021
[1] [2] T2/HT2 Toxin LCMS	T-2 Toxin	<0.2 ppm	28-Dec-2021
	HT-2 Toxin	<0.2 ppm	28-Dec-2021
[1] [2] Vomitoxin LCMS	Deoxynivalenol (Vomitoxin)	<0.1 ppm	28-Dec-2021
	Acetyldeoxynivalenol	<0.1 ppm	28-Dec-2021
[1] [2] Zearalenone LCMS	Zearalenone	<51.7 ppb	28-Dec-2021

Micro Testing

Method:	Component:	Result:	Test Date:
Aerobic Plate Count using PCA	Aerobic Plate Count	1.1E3 CFU / g	17-Dec-2021
Coliform using Petrifilm	Coliform count	<10 CFU / g	16-Dec-2021
E. coli using Petrifilm	E. coli	<10 CFU / g	17-Dec-2021

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Order # Sample ID: 2021-012659-01 **Company:** The Better Meat Co.

Customer Sample ID: 2021111709kL2

Sample Description: Dried protein ingredient

Micro Testing

Method:	Component:	Result:	Test Date:
Enterobacteriaceae	Enterobacteriaceae count	<10 CFU / g	16-Dec-2021
Lactic acid bacteria	Lactic acid bacteria	<10 CFU / g	20-Dec-2021
Listeria monocytogenes by ELFA	Listeria monocytogenes	Negative / 25 grams	20-Dec-2021
Mold using DRBC	Mold	<10 CFU / g	21-Dec-2021
Salmonella by ELFA	Salmonella	Negative / 25 grams	16-Dec-2021
Yeast using DRBC	Yeast	<10 CFU / g	21-Dec-2021

Results Approved By: Emily Franks
(Authorized Reviewer)

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Analytical Method References:

Method Name	Method Reference
Aflatoxin LCMS	Please contact for Method Details
Ash	AOAC: 923.03*
Calories	Internal Calculation
Carbohydrates	Internal Calculation
Cholesterol	AOAC: 976.26*
Fat (Gas Chromatography)	AOAC: 996.06*
Fiber (AOAC 991.43)	AOAC: 991.43*
Fumonisin LCMS	Please contact for Method Details
Metals (DMA)	EPA 7473
Metals (ICP-MS)	AOAC: 993.14*, AOAC: 2015.06*
Metals (ICP-OES)	AOAC: 975.03*, 985.01*, 984.27*, 2011.14*
Moisture by Vacuum Oven	AOAC: 945.43*, 934.01*
Ochratoxin LCMS	Please contact for Method Details
Protein	AACC 46-30*; AOAC 992.15*
T2/HT2 Toxin LCMS	Please contact for Method Details
Vomitoxin LCMS	Please contact for Method Details
Zearalenone LCMS	Please contact for Method Details

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Micro Method References:

Method Name	Method Reference
Aerobic Plate Count using PCA	FDA BAM CH 3*
Coliform using Petrifilm	AOAC 991.14
E. coli using Petrifilm	AOAC 991.14
Enterobacteriaceae	Compendium
Lactic acid bacteria	Compendium*
Listeria monocytogenes by ELFA	AOAC 2013.11*
Mold using DRBC	FDA BAM CH 18*, Compendium*
Salmonella by ELFA	AOAC 2013.01*
Yeast using DRBC	FDA BAM CH 18*, Compendium*

* This method has been modified.

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Order Number:	**2021-011123**	**Completed Date:**	10-Nov-2021
		Submitted Date:	29-Oct-2021
Submitter:	Katherine Ruwe		
Company:	The Better Meat Co.		
Company Address:	2939 Promenade St West Sacramento, CA 95691		
Results Email:	katherine.ruwe@bettermeat.co		
Invoice Email:	accounting@bettermeat.co		
Purchase Order:	211025DT03		

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Order # Sample ID:	2021-011123-01	**Company:**	The Better Meat Co.
Customer Sample ID:	2021081009kLB		
Sample Description:	Dried protein ingredient		

Analytical Testing

Method:	Component:	Result:	Test Date:
[1] [2] Aflatoxin LCMS	Aflatoxin B1	<1.3 ppb	10-Nov-2021
	Aflatoxin B2	<1.2 ppb	10-Nov-2021
	Aflatoxin G1	<1.1 ppb	10-Nov-2021
	Aflatoxin G2	<1.6 ppb	10-Nov-2021
Ash	Ash	6.882 %	03-Nov-2021
[2] Calories	Calories	367 Calories/100 g	08-Nov-2021
	Calories, 2020	260 Calories/100 g	08-Nov-2021
	Calories from Fat	37 Calories/100 g	08-Nov-2021
	Calories from Saturated Fat	7 Calories/100 g	08-Nov-2021
	Calories (Insoluble Fiber Subtracted)	265 Calories/100 g	08-Nov-2021
[2] Carbohydrates	Carbohydrates	40.9 %	08-Nov-2021
Cholesterol	Total Cholesterol	<1.0 mg/100g	08-Nov-2021
Fat (Gas Chromatography)	Total Fat	4.09 %	08-Nov-2021
	Saturated Fat	0.78 %	08-Nov-2021
	Monounsaturated Fat	1.07 %	08-Nov-2021
	cis-cis Polyunsaturated Fat	2.06 %	08-Nov-2021
	trans Fat	<LOQ %	08-Nov-2021
Fiber (AOAC 991.43)	Insoluble Dietary Fiber	25.6 %	04-Nov-2021
	Soluble Dietary Fiber	2.5 %	04-Nov-2021
	Total Dietary Fiber	28.1 %	04-Nov-2021
[1] [2] Fumonisin LCMS	Fumonisin B1	<0.1 ppm	10-Nov-2021
	Fumonisin B2	<0.1 ppm	10-Nov-2021

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Order # Sample ID:	2021-011123-01	**Company:**	The Better Meat Co.
Customer Sample ID:	2021081009kLB		
Sample Description:	Dried protein ingredient		

Analytical Testing

Method:	Component:	Result:	Test Date:
[1] [2] Fumonisin LCMS	Fumonisin B3	<0.1 ppm	10-Nov-2021
[1] [2] Mercury	Mercury	<0.010 mg/kg	08-Nov-2021
Metals (ICP-MS)	Arsenic	19.3 ppb	08-Nov-2021
Metals (ICP-MS)	Cadmium	36.8 ppb	08-Nov-2021
Metals (ICP-MS)	Lead	14.9 ppb	08-Nov-2021
Metals (ICP-OES)	Calcium	50.9 mg/100g	03-Nov-2021
Metals (ICP-OES)	Iron	8.77 mg/100g	03-Nov-2021
Metals (ICP-OES)	Potassium	1890 mg/100g	09-Nov-2021
Metals (ICP-OES)	Sodium	76.6 mg/100g	03-Nov-2021
Moisture by Vacuum Oven	Moisture	6.361 %	03-Nov-2021
[1] [2] Ochratoxin LCMS	Ochratoxin A	<1.1 ppb	10-Nov-2021
Protein	Protein Factor	6.25	03-Nov-2021
	Protein	41.8 %	03-Nov-2021
[1] [2] T2/HT2 Toxin LCMS	T-2 Toxin	<0.2 ppm	10-Nov-2021
	HT-2 Toxin	<0.2 ppm	10-Nov-2021
[1] [2] Vomitoxin LCMS	Deoxynivalenol (Vomitoxin)	<0.1 ppm	10-Nov-2021
	Acetyldeoxynivalenol	<0.1 ppm	10-Nov-2021
[1] [2] Zearalenone LCMS	Zearalenone	<51.7 ppb	10-Nov-2021

Micro Testing

Method:	Component:	Result:	Test Date:
Coliform using Petrifilm	Coliform count	<10 CFU / g	01-Nov-2021
E. coli using Petrifilm	E. coli	<10 CFU / g	01-Nov-2021
Enterobacteriaceae	Enterobacteriaceae count	<10 CFU / g	01-Nov-2021

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Order # Sample ID:	2021-011123-01	**Company:**	The Better Meat Co.
Customer Sample ID:	2021081009kLB		
Sample Description:	Dried protein ingredient		

Micro Testing

Method:	Component:	Result:	Test Date:
Lactic acid bacteria	Lactic acid bacteria	<10 CFU / g	05-Nov-2021
Listeria monocytogenes by ELFA	Listeria monocytogenes	Negative / 25 grams	04-Nov-2021
Mold using DRBC	Mold	<10 CFU / g	03-Nov-2021
Salmonella by ELFA	Salmonella	Negative / 25 grams	02-Nov-2021
Yeast using DRBC	Yeast	<10 CFU / g	03-Nov-2021

Results Approved By: Randy Vados
(Authorized Reviewer)

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Analytical Method References:

Method Name	Method Reference
Aflatoxin LCMS	Please contact for Method Details
Ash	AOAC: 923.03*
Calories	Internal Calculation
Carbohydrates	Internal Calculation
Cholesterol	AOAC: 976.26*
Fat (Gas Chromatography)	AOAC: 996.06*
Fiber (AOAC 991.43)	AOAC: 991.43*
Fumonisin LCMS	Please contact for Method Details
Mercury	Please contact for Method Details
Metals (ICP-MS)	AOAC: 993.14*, AOAC: 2015.06*
Metals (ICP-OES)	AOAC: 975.03*, 985.01*, 984.27*, 2011.14*
Moisture by Vacuum Oven	AOAC: 945.43*, 934.01*
Ochratoxin LCMS	Please contact for Method Details
Protein	AACC 46-30*; AOAC 992.15*
T2/HT2 Toxin LCMS	Please contact for Method Details
Vomitoxin LCMS	Please contact for Method Details
Zearalenone LCMS	Please contact for Method Details

[1] This analysis is performed by a partner lab.

[2] This test is not considered in-scope of our current A2LA accreditation. For a listing of in-scope tests, please visit www.medallionlabs.com.

Micro Method References:

Method Name	Method Reference
Coliform using Petrifilm	AOAC 991.14
E. coli using Petrifilm	AOAC 991.14
Enterobacteriaceae	Compendium
Lactic acid bacteria	Compendium*
Listeria monocytogenes by ELFA	AOAC 2013.11*
Mold using DRBC	FDA BAM CH 18*, Compendium*
Salmonella by ELFA	AOAC 2013.01*
Yeast using DRBC	FDA BAM CH 18*, Compendium*

* This method has been modified.

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Study Title

Bioinformatics analysis for potential risks of food allergy from of predicted proteins of *Neurospora crassa*

Authors

Richard E. Goodman
Mohamed Abdelmoteleb

Study Completed On

9 March 2022

Performing Laboratory

RE Goodman Consulting, LLC
8110 Dougan Circle
Lincoln, NE 68516
USA

Laboratory Project ID

Study Number: REG_BetterMeat1

Study Sponsor

The Better Meat Co.
2939 Promenade St.
West Sacramento, CA 95691

Principle Investigator Bio:

Rick Goodman, PhD is research professor at the Food Allergy Research and Resource Program (FARRP) at University of Nebraska-Lincoln, where he's served as a leading allergen expert since 2004. In addition to his extensive research and teaching experience on allergens and food safety of common foods, he has conducted pioneering research into novel food products to evaluate potential allergenicity risks, too.

Summary:

The Better Meat Co. is developing food materials made from whole mycelia of *Neurospora crassa*. The product is intended to replace meat in some foods. The mycelium of this organism is haploid for most of the life cycle. It is classified as being a member of the Sordariaceae family within the order Sordariales of the phylum Ascomycota. Neurospora is the most studied and characterized filametous fungi and the genome was published in 2003 by Galagan et al. (Nature, 2003). There is not an extensive history of food use of this organism in the United States, Europe or Japan. There are published uses of fermented foods using this fungus in Java in Indonesia and in Brazil (Perkins and Davis, 2000). The species has long been known as a bread mold and something that has been avoided in modern industrial food for aesthetic reasons by temperature controls and the use of preservatives in foods. However, we did not find records of toxicity or documented cases of food allergy caused by this species. It is an obligate aerobic organism capable of rapid growth on very simple media. A search of the NCBI PubMed identified only one abstract of possible allergy from 2013 (Khurana et al., 2013) that suggested a possible allergenic single protein could be produced and secreted to the medium of cultures of the fungus, but it did not provide evidence of allergic reactions. No other claims of allergy were found.

Proteins predicted from the 10,000 coding genes of this species, originally published by Galagan et al (Nature 2003), were evaluated in our bioinformatics searches of the www.AllergenOnline.org database, version 21. The primary comparison was performed on the Holland Computing Center (HCC) at the University of Nebraska-Lincoln by FASTA against the database to identify sequence matches of high amino acid identity to the version 21 putative and proven allergens. One hundred and ninety- two sequences scored matches greater than 35% identity to one or more allergens in the database. Those sequences were then manually compared to the public version of the AllergenOnline.org database to identify the individual potential allergens of interest. To judge potential risks, the sequences were also compared to the public version of the NCBI Protein database by BLASTP. Each sequence was evaluated to consider how common similar or higher identity matches occur from a variety of organisms that are not known to cause allergies. As performed by us, FASTA comparisons were used to search for full-length alignments as well as our sliding 80 amino acid alignment methods to identify matches with high matches or identities down to 35% over 80 amino acids. The higher the identity, the greater possibility of potential IgE cross-reactivity and allergy. Since allergens are not equal in potency and biological relevance, the matches were compared to proteins of other species including humans and other organisms. Finding high identities to proteins from diverse sources suggests a low likelihood of risk since few people have diverse cross-reactive or co-reactive responses. The proteins identified in this study were primarily from enzymes and protein types

that are not major allergens. The conclusion of this study is that the *Neurospora crassa* proteins are unlikely to cause risks of food allergy if processed and used in foods.

STUDY NUMBER: REG _ BetterMeat1

Title: Bioinformatics analysis for potential risks of food allergy from of predicted proteins of *Neurospora crassa*

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Study Start Date: 10 November 2021
Study Completion Date: 22 January 2022

Records Retention:

Study specific raw data and a copy of the final report will be retained by Richard Goodman and a copy to The Better Meat Co. , 2939 Promenade St. West Sacramento, CA 95691.

Signature of Final Report Approval:

Principle Investigator: Richard E. Goodman

9 March 2022

Date

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ABBREVIATIONS

aa	Amino acid
BLASTP	Amino acid search algorithm version 2.0.1+ n the NCBI Protein database
FASTA	Local search alignment for protein sequences developed by William Pearson version 35.04
HCC	Holland Computing Center at the University of Nebraska

1.0 Introduction

The Better Meat Co. is developing cultured food products containing whole mycelia from *N. crassa*. This fungus is from a species that has been extensively studied in genetics, protein composition and metabolites over decades. It is a haploid organism for most of the life-cycle and has a very rapid growth rate. The genome was completed in 2003 (Galagan et al., Nature, volume 422). And it has approximately 10,000 protein coding genes. The hyphal mass of this organism is harvested from known culture conditions. The company that developed the product contacted us to evaluate potential risks of food allergy based on literature searches and bioinformatics searches using our www.AllergenOnline.org database, version 21 of the AllergenOnline.org database (Goodman et al., 2016) and to perform a comparison of the sequences of expected proteins to all proteins in the NCBI Protein database using BLASTP. The genomic sequences and RNA sequences of the species are public from wild-type strain N150 (74-OR23-1VA; Fungal Genetics Stock Center 2489) as described in Galagan et al., (2003, Nature). The search comparison for matches to allergens was accomplished by FASTA version 36 on the HCC supercomputer using version 21 of the AllergenOnline.org database with default *E* score. The results were compiled in an EXCEL sheet with the highest identity matches and best protein alignments at the top. Then the individual proteins were compared again to the AllergenOnline.org database using the public website (www.AllergenOnline.org) using FASTA 35 using full-length FASTA and sliding 80mer algorithms. The same sequences were compared to the public NCBI Protein database of all proteins using BLASTP.

The CODEX criteria of >35% identity over 80 amino acids (AA) is a bit arbitrary and for most protein types is overly conservative for judging potential risks of cross-reactivity. This can introduce the risk of false positive results. We described previously that cutting the alignments off at 80 AA can miss important matches that might represent a serious risk such as a segment of 74 AA of peanut allergen Ara h 2, with 100% match to Ara h 2 is recalculated to be equivalent to 94% identity over an 80 AA protein. That segment would contain two to three IgE binding epitopes that have been shown to be clinically important. If such a protein were transferred into rice, someone with peanut allergy could suffer severe anaphylaxis. At the opposite end of the scale, proteins from many diverse species share >35% identity due to evolutionary conservation and when evaluated for clinical allergy in the population, do not share histories of allergy (Abdelmoteleb et al., 2021). In the current study, all proteins predicted from the genome and transcriptome of *N. crassa* were compared to the AllergenOnline.org database and sorted by sequence identity, alignment length using batch comparison, then the highest storing apparent matches were individually compared to the public website on www.AllergenOnline.org. In addition, a scientific literature review was conducted using NCBI PubMed to identify peer reviewed papers that contain relevant information about allergy of the organism and proteins.

The recommended criteria for potential cross-reactivity is that proteins with >35% sequence identity over 80 or more amino acids could represent proteins that might lead to IgE cross-reactivity and potential allergic reactions for those with significant pre-existing allergies. It is important to note that thirty-five percent identity is much lower than that noted as causing significant IgE cross-reactivity and clinical allergy for most proteins (Aalberse, 2000).

It is also important to note that many of the sequences in the www.Allergenonline.org database have only been demonstrated to show IgE binding from people reported to have allergies and have not been clearly proven to be the cause of clinically defined food allergy. When considering the allergenicity of a single or a few proteins in a genetically engineered organism, it is generally possible to find appropriate sera and to perform laboratory serum IgE tests, and if positive IgE binding is found, to test for biological activity using basophil activation tests or possibly skin prick tests. However, eukaryotic organisms have hundreds to thousands of proteins, many of which are highly conserved across species. The www.AllergenOnline.org database (and other allergen databases) contain a number of sequences, which are members of highly conserved protein groups, and thus it was expected that a number of potentially false positive sequence alignments would be identified as the result of a full-genomics screen. We therefore planned to screen identified alignments over the recommended criteria of >35% identity over 80 amino acids against the full-NCBI Protein database using BLASTP to consider the relevance of matches. The results and conclusions of this study are reported here.

2.0 Purpose

The purpose of this study was to consider the potential allergenicity of the proteins that might be produced from the cultured filamentous fungus *N. crassa*, wild-type strain N150 (74-OR23-1VA; Fungal Genetics Stock Center 2489) as representative for the species and for the Better Meat Co's product. It is the strain that was used to sequence and annotate the *N. crassa* genome by Galagan et al., (2003). Based on predictions from genomic and transcriptomic sequences of the whole organism we expect to find many high identity matches to proteins that are highly conserved through evolution including many in the www.AllergenOnline.org database. Interpretation of the results would require using our experiences with other whole organism predictions (Abdelmoteleb et al., 2021). Due to the high likelihood of false-positive matches, we have included evaluation of sequence identities of *N. crassa* proteins to all proteins in the NCBI Protein database. If sequence identity matches were found to be clearly important allergenic proteins based on the AllergenOnline.org annotation and on literature information, we intend to identify the type of allergic subjects that would be at risk and consider the characteristics of allergic subjects that would be relevant for serum IgE binding studies. If no such apparent risky matches are found, we would suggest there are no populations of allergic subjects to test for possible cross-reactivity.

3.0 Methods.

The Better Meat Co provided the reference of the genomic DNA sequences and proteins for *N. crassa* from the updated annotation of the data from Galagan et al., (2003) as an appropriate reference for their wild-type production strain. We have used that assembled data to compare to the AllergenOnline.org database version 21 in the University of Nebraska-Lincoln Holland Computing Center supercomputer, against version 21 of www.AllergenOnline.org using FASTA version 36. The output was collected in Excel format with information of the Accession number of individual *N. crassa* proteins with the highest protein identity match from version 21 of the

database, the *E*-score, the percent identity, the length of the alignments. Individual protein sequences suspected as having high identities were then compared to the public database of AllergenOnline.org using FASTA 35 and also to the NCBI Protein database using BLASTP.

3.1 Prediction of proteins based on genomic and transcriptomic DNA sequences of *N. crassa*. The DNA sequences of *N. crassa* were described including the assembly from whole shotgun sequencing and targeted sequencing of multiple clones shown in their supplementary information (Galagan et al., 2003). The assembly included 20-fold sequence coverage and 98-fold physical coverage of the genome. The paper described the methods and software used in the assembly with 38.6 Mb total length. The accuracy and extent of the genome coverage was described (Galagan et al., 2003). A total of 10,082 protein-coding genes larger than 100 amino acids were described. At that time 41% of the predicted proteins lack significant matches to other eukaryotic genes. Many publications are available before and after the Galagan 2003 Nature article that have contributed to or built on their seminal work. A literature search was performed for the species and DNA predictions and it is clear the Galagan study provides a solid basis for genomic work. The report by Dreyfuss et al. (2014) confirms the overall validity of their genome prediction by modeling for metabolic processes using a variety of techniques. No studies were found that suggest major flaws in their 2003 genomic structure. The genomic annotation data of *N. crassa* was recently updated in 2014 and is currently in version 3. Thus, we feel confident in using their data to predict the most likely protein products from this species. The bioinformatics pipeline has been completed using our lab cluster on the Holland Computer Center server at the University of Nebraska. The predicted protein sequences are shown in Annex 2.

3.2 Predicted protein sequences compared to Allergenonline.org version 21. The predicted protein sequences from the updated annotation of the Galagan dataset (Nature, 2003) were compared to AllergenOnline.org by FASTA 36 as a batch alignment on the HCC. Data of highest identity matches of *N. crassa* proteins to allergens and putative allergens in version 21 of AllergenOnline database are summarized in the table in Annex 2. All of the *N. crassa* proteins from the annotated genome were tested against the HCC AllergenOnline version 21 dataset and positive matches were recorded. The individual proteins from *N. crassa* were also compared to the NCBI protein database on HCC. Then the individual proteins that matched on HCC were manually compared to the public www.AllergenOnline.org database site using FASTA 35.

3.3 BLASTP of NCBI Entrez without any keyword limit. The BLASTP is available on the NCBI Entrez website (http://www.ncbi.nlm.nih.gov/BLAST/). The version of BLASTP loaded on the HCC and used for the alignments was BLAST+ 2.10.0, December 2019. Default scoring criteria were used: The *E* score threshold of 0.05 was used with a word size of 6. The BLOSUM62 scoring matrix was used with Gap Costs (existence 11, extension 1) were used. The public website that was used to repeat the BLASTP search was on 19 January 2022 uses BLASTP version 2.13.0+. The update of the NCBI Protein on the public website was 19 January 2022.

3.4 Compilation of results. The results of bioinformatics (sequence searches) were summarized in an Excel file (Annex 2) showing the best FASTA match to an allergen in AllergenOnline.org version 21 with the sequence identity, alignment length and *E* score as well as results from the BLASTP of the highest scoring allergen to NCBI Protein, showing the number of high scoring alignments and minimum scores. The overall results for the predicted proteins from *N. crassa*, as well as the best identity match to a protein source that should be commonly encountered by humans are included.

4.0 Results. The 191 protein sequences identified by AllergenOnline.org version 21 from the predicted genomic sequences of strain *N. crassa* using the HCC supercomputer are presented in Annex 2. The *E* score of the best identity match is listed in column E. The NCBI Protein Accession number and amino acid sequences are listed in column F. These sequences were manually compared to the AllergenOnline.org database using full-length FASTA and for some, sliding window of 80 AA for others with the best allergen alignment shown in column G. Some entries include one or two best matches, others include multiple best matches. The output is shown by GI number, brief protein description, and on the right side of the row, alignment length, the number left of that is the fractional similarity and to the left of that is the fractional identity match. Multiplying the fractional identity by 100 yields the percent identity. Identities greater than 35% over 80 amino acids are considered marginally significant. Numbers with 100% are much more significant. Column H of Annex 2 provides a brief description of overall protein identity to NCBI Protein based on the results of FASTA and BLAST alignments. The comment for each *N. crassa* protein entry describes the likelihood of the protein posing a significant risk of potential allergic cross-reactivity, or not, based in part on the uniqueness of the proteins across-taxa.

4.1 Literature. A search of the PubMed database on 19 January 2022 did not identify clear cases of allergy caused by proteins from *N. crassa* or other *Neurospora* species. There was only one publication that suggested that a secreted protein from this species might be associated with allergy, (Khurana et al., 2013) and that publication did not provide clear evidence of IgE binding or allergy from any individual with proven allergy to the source. Some publications did identify spores of *Neurospora* spp. in samples collected from areas with fungal allergy. But there was no proof of IgE binding to proteins from this species.

5.0 Discussion. Search comparisons to allergens were also compared to BLASTP searches to all proteins. For sequences that are conserved extensively in evolution with high identity matches across broad taxonomic groups, it is highly unlikely that these would represent potentially cross-reactive proteins as few patients have very broad causes of allergy. People are not allergic to many taxonomically diverse species. Often the identities are across proteins that are very similar because they represent needed biological functions. Many are enzymes and the tests are usually in vitro IgE binding without demonstration of reactivity by basophils or in skin tests with pure proteins. The highest scoring protein was an enolase with high identity to enolase of *Aspergillus fumigatus* (Asp f 22). Very high identity matches for that *N. crassa* protein include matches to a

number of fungal species enolases. It is also high in identity to fish enolases from diverse species. Some publications claim enolases are broadly cross-reactive allergens (Hilger et al., 2017). A recent review on enolase activity comparing fungal plant and animal enolases suggest that identity matches > 60% may represent some clinical cross-reactivity, but among organism types >70% to >80% identity is likely to indicate possible clinical reactivity (Morales-Amparano et al., 2021). The 60S ribosomal protein is >90% identical to two allergens from fungi, but it is a very abundant and conserved protein and unlikely to be a cross-reactive allergen. Heat shock proteins are highly conserved and common. They are not important allergens and are unlikely to be cross-reactive across broad taxa. Cytochrome c is highly conserved over evolution and at 85% identity is unlikely to represent a cross-reactive allergen. Transaldolase is highly conserved across fungal proteins and grasses. At 80% identity it is unlikely to be cross-reactive. Similar findings are common for the other proteins identified by FASTA and BLASTP as being homologues. Again, *N. crassa* has been extensively studied for taxonomy, genetics and fermentation. It is in a group of organisms in the order Sordariales that does not have allergenic organisms. While some fungi within the Ascomycota are known to have common and strong histories of allergy, such as *Aspergillus* and *Penicillium*, they are not closely related to *Neurospora* or Sordariales.

6.0 Conclusions. Based on the total protein identity matches of predicted proteins from *Neurospora crassa* to the proteins of AllergenOnline.org version 21, the common proteins are highly conserved in evolution and these do not correlate with known allergy risks for food. Due to relatively low sequence identity matches to known allergens this analysis indicates that food produced from *N. crassa is not* likely to pose a realistic risk of food allergy to consumers. Based on diverse sequence identities of the matched proteins from highly diverse sources, there is no reason to suggest a risk that would require serum IgE binding studies or in vivo reactivity tests. No evidence was found to suggest that matches in this bioinformatics study represent any risk to consumers that is not matched by the equal low-level identity matches from widely diverse taxa of divergent organisms.

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Appendix 1: AllergenOnline Database, version 21. (attached PDF, 43 pages).

Appendix 2: Bioinformatics results from searches of the *Neurospora crassa* proteins identified by Galagan et al., 2003 and those in AllergenOnline.org and the FASTA version 35 searches to the Protein database. (attached PDF, 35 pages).

Species	Common	IUISÂ Allergen	Type	Group	Allergenicity	Length	Accession	GI#	1stÂ Version
Acarus siro	Mite	Aca s 13	Aero Mite	Acarus Aca s 13	IgE but no biological test	131	ABL09307.1	118638268	9
Acarus siro	Mite	Unassigned	Aero Insect	Acarus siro Group 4 allergen	IgE but no biological test	517	ABL09312.1	118638278	9
Actinidia arguta	Hardy Kiwi	Unassigned	Food Plant	Actinidia arguta kiwellin	IgE but no biological test	213	AGC39172.1	441482362	14
Actinidia arguta	Hardy Kiwi	Unassigned	Food Plant	Actinidia arguta kiwellin	IgE but no biological test	213	AGC39173.1	441482364	14
Actinidia arguta	Hardy Kiwi	Unassigned	Food Plant	Actinidia arguta kiwellin	IgE but no biological test	213	AGC39174.1	441482366	14
Actinidia chinensis	Kiwi	Unassigned	Food Plant	Actinidia Act c 1 Act d 1 Actinidin	IgE plus basophil+ or SPT+	380	P00785.4	190358935	9
Actinidia chinensis	Kiwi	Unassigned	Food Plant	Actinidia Act c 1 Act d 1 Actinidin	IgE plus basophil+ or SPT+	380	BBA83994.1	1373811525	19
Actinidia chinensis	Kiwi	Act c 10	Food Plant	Actinidia Act c 10 LTP	IgE plus basophil+ or SPT+	15	P85204.1	378548410	13
Actinidia chinensis	Kiwi	Act c 5.0102	Food Plant	Actinidia Act c 5 kiwellin	IgE but no biological test	213	AGC39168.1	441482354	14
Actinidia chinensis	Kiwi	Act c 8.0101	Food Plant	Actinidia Act c 8 Act d 8 PR-10	IgE but no biological test	159	CAM31908.1	281552896	11
Actinidia chinensis	Kiwi	Act d 12.0102	Food Plant	Actinidia Act d 12	IgE plus basophil+ or SPT+	462	ABB77213.1	82469930	16
Actinidia chinensis	Kiwi	Unassigned	Food Plant	Actinidia Act d 2 thaumatin like protein	IgE plus basophil+ or SPT+	20	P83958.1	68064399	7
Actinidia chinensis	Kiwi	Unassigned	Food Plant	Actinidia Act d 2 thaumatin like protein	IgE plus basophil+ or SPT+	225	AGC39176.1	441482370	14
Actinidia deliciosa	Kiwi	Act d 1.0101	Food Plant	Actinidia Act c 1 Act d 1 Actinidin	IgE plus basophil+ or SPT+	380	CAA34486.1	15984	7
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act c 1 Act d 1 Actinidin	IgE plus basophil+ or SPT+	380	AAA32629.1	166317	7
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act c 1 Act d 1 Actinidin	IgE plus basophil+ or SPT+	380	A5HII1.1	193806686	12
Actinidia deliciosa	Kiwi	Act d 8.0101	Food Plant	Actinidia Act c 8 Act d 8 PR-10	IgE but no biological test	157	CAM31909.1	281552898	11
Actinidia deliciosa	Kiwi	Act d 10.0201	Food Plant	Actinidia Act d 10 LTP	IgE plus basophil+ or SPT+	92	P85206.1	378548411	13
Actinidia deliciosa	Kiwi	Act d 10.0101	Food Plant	Actinidia Act d 10 LTP	IgE plus basophil+ or SPT+	92	P86137.2	378405189	13
Actinidia deliciosa	Kiwi	Act d 11.0101	Food Plant	Actinidia Act d 11 Kirola MLP	IgE but no biological test	150	P85524.1	332319679	12
Actinidia deliciosa	Kiwi	Act d 2.0101	Food Plant	Actinidia Act d 2 thaumatin like protein	IgE plus basophil+ or SPT+	225	CAI38795.2	71057064	7
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act d 2 thaumatin like protein	IgE plus basophil+ or SPT+	201	ABQ42566.1	146737976	9
Actinidia deliciosa	Kiwi	Act d 4.0101	Food Plant	Actinidia Act d 4 Phytocystatin	IgE plus basophil+ or SPT+	116	AAR92223.1	40807635	7
Actinidia deliciosa	Kiwi	Act d 5.0101	Food Plant	Actinidia Act d 5 kiwellin	IgE plus basophil+ or SPT+	189	P84527.1	85701136	7
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act d 5 kiwellin	IgE plus basophil+ or SPT+	213	AGC39164.1	441482346	14
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act d 5 kiwellin	IgE plus basophil+ or SPT+	213	AGC39165.1	441482348	14
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act d 5 kiwellin	IgE plus basophil+ or SPT+	213	AGC39166.1	441482350	14
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act d 5 kiwellin	IgE plus basophil+ or SPT+	213	AGC39167.1	441482352	14
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act d 5 kiwellin	IgE plus basophil+ or SPT+	189	4X9U_B	906848988	17
Actinidia deliciosa	Kiwi	Act d 9.0101	Food Plant	Actinidia Act d 9, profilin	IgE but no biological test	109	C0HL99.1	1407892581	19
Actinidia eriantha	Climber (plant)	Unassigned	Food Plant	Actinidia eriantha kiwellin	IgE but no biological test	213	AGC39169.1	441482356	14
Actinidia eriantha	Climber (plant)	Unassigned	Food Plant	Actinidia eriantha kiwellin	IgE but no biological test	213	AGC39170.1	441482358	14
Actinidia eriantha	Climber (plant)	Unassigned	Food Plant	Actinidia eriantha kiwellin	IgE but no biological test	213	AGC39171.1	441482360	14
Aedes aegypti	Yellow fever mosquito	Aed a 1.0101	Venom or Salivary	Aedes Aed a 1 apyrase	IgE plus basophil+ or SPT+	562	AAC37218.1	556272	7
Aedes aegypti	Yellow fever mosquito	Unassigned	Venom or Salivary	Aedes Aed a 1 apyrase	IgE plus basophil+ or SPT+	562	P50635.2	193806340	10
Aedes aegypti	Yellow fever mosquito	Aed a 11	Venom or Salivary	Aedes Aed a 11 Lysosomal protease	IgE but no biological test	387	XP_001657556.2	1218215869	18
Aedes aegypti	Yellow fever mosquito	Aed a 2	Venom or Salivary	Aedes Aed a 2	IgE plus basophil+ or SPT+	321	P18153.2	205525919	9
Aedes aegypti	Yellow fever mosquito	Aed a 3.0101	Venom or Salivary	Aedes Aed a 3	IgE plus basophil+ or SPT+	253	AAB58417.1	2114497	7
Aedes aegypti	Yellow fever mosquito	Unassigned	Venom or Salivary	Aedes Aed a 3	IgE plus basophil+ or SPT+	273	ABF18122.1	94468546	7
Aedes aegypti	Yellow fever mosquito	Aed a 5.0101	Venom or Salivary	Aedes Aed a 5 Sarcoplasmic Ca+ bind	IgE but no biological test	191	XP_001653462.1	157119961	17
Aedes aegypti	Yellow fever mosquito	Aed a 7.0101	Venom or Salivary	Aedes Aed a 7	IgE but no biological test	204	XP_001654291.1	157125324	17
Aedes aegypti	Yellow fever mosquito	Aed a 8.0101	Venom or Salivary	Aedes Aed a 8 HSP70	IgE but no biological test	655	ABF18258.1	94468818	17
Aedes aegypti	Yellow fever mosquito	Aed a 10.0201	Venom or Salivary	Aedes aegypti Aed a 10	IgE but no biological test	284	XP_001655948.1	157131813	16
Aedes aegypti	Yellow fever mosquito	Aed a 10.0101	Venom or Salivary	Aedes aegypti Aed a 10	IgE but no biological test	285	XP_001655954.1	157131825	16
Aedes aegypti	Yellow fever mosquito	Aed a 4.0101	Venom or Salivary	Aedes aegypti Aed a 4 alpha glucosidase	IgE but no biological test	579	P13080.1	126713	17
Agrostis alba	Bent grass	Unassigned	Aero Plant	Agrostis Agr a 1	IgE but no biological test	26	E37396	320606	7
Agrostis alba	Bent grass	Unassigned	Aero Plant	Agrostis Agr a 1	IgE but no biological test	35	Q7M1X7	75139987	7
Agrostis alba	Bent grass	Unassigned	Aero Plant	Agrostis Agr a 1	IgE but no biological test	35	Q7M1X9	75139989	7
Alnus glutinosa	Alder	Aln g 1.0101	Aero Plant	Alnus Aln g 1	IgE but no biological test	160	AAB24432.1	261407	7
Alnus glutinosa	Alder	Aln g 4.0101	Aero Plant	Alnus Aln g 4	IgE plus basophil+ or SPT+	85	CAA76831.1	3319651	7
Alternaria alternata	Fungus	Alt a 1.0101	Aero Fungi	Alternaria Alt a 1	IgE plus basophil+ or SPT+	157	AAB47552.1	1842045	7
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 1	IgE plus basophil+ or SPT+	115	AAM77471.1	21913174	7
Alternaria alternata	Fungus	Alt a 1.0102	Aero Fungi	Alternaria Alt a 1	IgE plus basophil+ or SPT+	157	AAS75297.1	45680856	7

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Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 1	IgE plus basophil+ or SPT+	133	3V0R_A	390980892	13
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 1	IgE plus basophil+ or SPT+	130	4AUD_B	508123617	15
Alternaria alternata	Fungus	Alt a 10.01	Aero Fungi	Alternaria Alt a 10 ADH	IgE but no biological test	497	CAA55071.2	76666767	7
Alternaria alternata	Fungus	Alt a 12.0101	Aero Fungi	Alternaria Alt a 12 Ribosomal BP P1	IgE but no biological test	110	P49148.1	1350779	7
Alternaria alternata	Fungus	Alt a 13.0101	Aero Fungi	Alternaria Alt a 13	IgE plus basophil+ or SPT+	231	Q6R4B4.1	74611808	10
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 15	IgE but no biological test	507	AHZ97469.1	636530596	17
Alternaria alternata	Fungus	Alt a 3.0101	Aero Fungi	Alternaria Alt a 3 HSP	IgE but no biological test	152	P78983.2	14423730	7
Alternaria alternata	Fungus	Alt a 4.0101	Aero Fungi	Alternaria Alt a 4 thioredoxin	IgE but no biological test	436	Q00002.2	85701160	7
Alternaria alternata	Fungus	Alt a 5.0101	Aero Fungi	Alternaria Alt a 5 ribosomal P2	IgE but no biological test	113	AAB48041.1	1850540	7
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 5 ribosomal P2	IgE but no biological test	113	P42037.1	1173071	10
Alternaria alternata	Fungus	Alt a 6.0101	Aero Fungi	Alternaria Alt a 6 enolase	IgE but no biological test	438	Q9HDT3.2	14423684	7
Alternaria alternata	Fungus	Alt a 7.0101	Aero Fungi	Alternaria Alt a 7 flavodoxin	IgE but no biological test	204	P42058.1	1168402	9
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 7 flavodoxin	IgE but no biological test	261	OWY50380.1	1213711549	18
Alternaria alternata	Fungus	Alt a 8.0101	Aero Fungi	Alternaria Alt a 8 (mannitol dehydrogenase)	IgE plus basophil+ or SPT+	266	AAO91800.1	37780013	8
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 8 (mannitol dehydrogenase)	IgE plus basophil+ or SPT+	266	P0C0Y4.2	118595439	8
Alternaria alternata	Fungus	Alt a 14.0101	Aero Fungi	Alternaria MnSOD Alt a 14	IgE but no biological test	191	AGS80276.1	529279957	15
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Nuc Transport 2	IgE plus basophil+ or SPT+	124	CAD38167.1	21748153	7
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria TCTP IgE binding	IgE but no biological test	169	ABI26088.1	112824341	11
Amaranthus retroflexus	Common Amaranth	Ama r 2.0101	Aero Plant	Amaranthus Ama r 2 Profilin	IgE plus basophil+ or SPT+	133	ACP43298.1	227937304	10
Amaranthus retroflexus	Common Amaranth	Ama r 1.0101	Aero Plant	Amaranthus retroflexus Ama r 1	IgE but no biological test	168	AKV72168.1	914410010	16
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0101	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	396	P27759.1	113475	7
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0201	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	398	P27760.1	113476	7
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0301	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	397	P27761.1	113477	7
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0401	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	392	P28744.1	113478	7
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0303	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	397	AAA32669.1	166443	7
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0501	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	397	AAA32671.1	166447	11
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	396	CBW30986.1	302127810	12
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0202	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	398	CBW30987.1	302127812	12
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0304	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	397	CBW30988.1	302127814	12
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0305	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	397	CBW30989.1	302127816	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	397	CBW30990.1	302127818	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	397	CBW30991.1	302127820	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	397	CBW30992.1	302127822	12
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0402	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	387	CBW30993.1	302127824	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	397	CBW30994.1	302127826	12
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0502	Aero Plant	Ambrosia Amb a 1	IgE plus basophil+ or SPT+	397	CBW30995.1	302127828	12
Ambrosia artemisiifolia	Short ragweed	Amb a 10.0101	Aero Plant	Ambrosia Amb a 10	IgE but no biological test	160	AAX77686.1	62249491	7
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	IgE but no biological test	164	CBJ24286.1	285005079	11
Ambrosia artemisiifolia	Short ragweed	Amb a 4.0101	Aero Plant	Ambrosia Amb a 4	IgE but no biological test	164	CBK52317.1	291197394	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	IgE but no biological test	111	CBK62693.1	291482306	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	IgE but no biological test	140	CBK62694.1	291482308	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	IgE but no biological test	134	CBK62695.1	291482310	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	IgE but no biological test	96	CBK62697.1	291482314	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	IgE but no biological test	110	CBK62698.1	291482316	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	IgE but no biological test	116	CBK62699.1	291482318	12
Ambrosia artemisiifolia	Short ragweed	Amb a 6.0101	Aero Plant	Ambrosia Amb a 6	IgE but no biological test	118	O04004.1	14285595	7
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 8 profilin	IgE plus basophil+ or SPT+	133	AAP15203.1	34851182	7
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 8 profilin	IgE plus basophil+ or SPT+	131	AAP15202.1	34851180	7
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 8 profilin	IgE plus basophil+ or SPT+	131	AAP15201.1	34851178	7
Ambrosia artemisiifolia	Short ragweed	Amb a 8.0101	Aero Plant	Ambrosia Amb a 8 profilin	IgE plus basophil+ or SPT+	133	AAX77687.1	62249502	7
Ambrosia artemisiifolia	Short ragweed	Amb a 8.0102	Aero Plant	Ambrosia Amb a 8 profilin	IgE plus basophil+ or SPT+	133	AAX77688.1	62249512	7
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 8 profilin	IgE plus basophil+ or SPT+	135	5EM1_A	1035439203	18
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 8 profilin	IgE plus basophil+ or SPT+	134	5EV0_B	1035439209	18

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Ambrosia artemisiifolia	Short ragweed	Amb a 9.0101	Aero Plant	Ambrosia Amb a 9	IgE plus basophil+ or SPT+	83	AAX77684.1	62249470	7
Ambrosia artemisiifolia	Short ragweed	Amb a 9.0102	Aero Plant	Ambrosia Amb a 9	IgE plus basophil+ or SPT+	83	AAX77685.1	62249481	7
Ambrosia artemisiifolia	Short ragweed	Amb a 11.0101	Aero Plant	Ambrosia artemisiifolia Amb a 11	IgE plus basophil+ or SPT+	386	AHA56102.1	558482540	15
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia artemisiifolia Amb a 11	IgE plus basophil+ or SPT+	385	5EGW_B	1023176264	17
Ambrosia artemisiifolia (elatior)	Short ragweed	Amb a 3.0101	Aero Plant	Ambrosia Amb a 3	IgE plus basophil+ or SPT+	101	P00304.2	416636	7
Ambrosia artemisiifolia (elatior)	Short ragweed	Amb a 5.0101	Aero Plant	Ambrosia Amb a 5 Ra5 Amb p 5	IgE plus basophil+ or SPT+	45	P02878.1	114090	7
Ambrosia psilostachya	Western ragweed	Amb p 5.0101	Aero Plant	Ambrosia Amb a 5 Ra5 Amb p 5	IgE plus basophil+ or SPT+	77	AAA20065.1	515953	7
Ambrosia psilostachya	Western ragweed	Unassigned	Aero Plant	Ambrosia Amb a 5 Ra5 Amb p 5	IgE plus basophil+ or SPT+	77	AAA20067.1	515954	7
Ambrosia psilostachya	Western ragweed	Amb p 5.0201	Aero Plant	Ambrosia Amb a 5 Ra5 Amb p 5	IgE plus basophil+ or SPT+	77	AAA20064.1	515955	7
Ambrosia psilostachya	Western ragweed	Unassigned	Aero Plant	Ambrosia Amb a 5 Ra5 Amb p 5	IgE plus basophil+ or SPT+	77	AAA20066.1	515956	7
Ambrosia psilostachya	Western ragweed	Unassigned	Aero Plant	Ambrosia Amb a 5 Ra5 Amb p 5	IgE plus basophil+ or SPT+	77	AAA20068.1	515957	7
Ambrosia trifida	Giant ragweed	Amb t 5.0101	Aero Plant	Ambrosia Amb t 5 Ra5G	IgE but no biological test	73	P10414.2	114091	7
Amphioctopus fangsiao	Octopus	Unassigned	Food Animal	Amphioctopus arginine kinase	IgE but no biological test	348	AEK65120.1	340742817	12
Anacardium occidentale	Cashew	Ana O 1.0102	Food Plant	Anacardium Ana o 1	IgE plus basophil+ or SPT+	536	AAM73729.1	21666498	7
Anacardium occidentale	Cashew	Ana O 1.0101	Food Plant	Anacardium Ana o 1	IgE plus basophil+ or SPT+	538	AAM73730.2	21914823	7
Anacardium occidentale	Cashew	Ana o 2.0101	Food Plant	Anacardium Ana o 2	IgE plus basophil+ or SPT+	457	AAN76862.1	25991543	7
Anacardium occidentale	Cashew	Ana o 3.0101	Food Plant	Anacardium Ana o 3	IgE plus basophil+ or SPT+	138	AAL91665.1	24473800	7
Ananas comosus	Pineapple	Ana c 2.0101	Aero Plant	Ananas Ana c 2 Bromelain precursor	IgE plus basophil+ or SPT+	351	O23791.1	75277440	7
Ananas comosus	Pineapple	Ana c 1.0101	Food Plant	Ananas profilin Ana c 1	IgE but no biological test	131	Q94JN2.1	75306610	10
Anisakis pegreffii	Parasitic fish worm	Ani s 13.0101	Worm (parasite)	Anisaki Ani s 13	IgE but no biological test	309	AFY98826.1	428230092	15
Anisakis pegreffii	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	IgE but no biological test	264	AGC60026.1	442577845	14
Anisakis pegreffii	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	IgE but no biological test	264	AGC60027.1	442577847	14
Anisakis pegreffii	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	IgE but no biological test	264	AGC60028.1	442577849	14
Anisakis pegreffii	Parasitic fish worm	Unassigned	Important Worm (parasite)	Anisakis Ani s 2 paramyosin	IgE but no biological test	869	AGC60020.1	442577833	14
Anisakis simplex	Parasitic fish worm	Unassigned	Worm (parasite)	Anisaki Ani s 13	IgE but no biological test	332	ASL68918.2	1236364983	19
Anisakis simplex	Parasitic fish worm	Ani s 1.0101	Food Animal	Anisakis Ani s 1 protease inhibitor	IgE plus basophil+ or SPT+	194	Q7Z1K3.1	47605452	7
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 1 protease inhibitor	IgE plus basophil+ or SPT+	163	AGC60035.1	442577863	14
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 1 protease inhibitor	IgE plus basophil+ or SPT+	163	AGC60036.1	442577865	14
Anisakis simplex	Parasitic fish worm	Ani s 10.0101	Food Animal	Anisakis Ani s 10	IgE but no biological test	231	ACZ95445.1	272574378	11
Anisakis simplex	Parasitic fish worm	Ani s 11.0101	Food Animal	Anisakis Ani s 11	IgE but no biological test	307	BAJ78220.1	323575361	12
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 11	IgE but no biological test	160	BAJ78221.1	323575363	12
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 11	IgE but no biological test	287	BAJ78222.1	323575365	12
Anisakis simplex	Parasitic fish worm	Ani s 12.0101	Food Animal	Anisakis Ani s 12	IgE but no biological test	295	BAJ78223.1	323575367	12
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	IgE but no biological test	264	AGC60029.1	442577851	14
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	IgE but no biological test	264	AGC60030.1	442577853	14
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	IgE but no biological test	264	AGC60031.1	442577855	14
Anisakis simplex	Parasitic fish worm	Ani s 14.0101	Food Animal	Anisakis Ani s 14	IgE but no biological test	217	BAT62430.1	957554293	17
Anisakis simplex	Parasitic fish worm	Ani s 2.0101	Food Animal	Anisakis Ani s 2 paramyosin	IgE but no biological test	473	AAF75225.1	8453086	7
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 2 paramyosin	IgE but no biological test	869	Q9NJA9.1	42559536	9
Anisakis simplex	Parasitic fish worm	Ani s 3.0101	Food Animal	Anisakis Ani s 3 tropomyosin	IgE plus basophil+ or SPT+	284	Q9NAS5.1	14423976	7
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 3 tropomyosin	IgE plus basophil+ or SPT+	284	AEQ28167.1	350285785	13
Anisakis simplex	Parasitic fish worm	Ani s 4.0101	Food Animal	Anisakis Ani s 4	IgE plus basophil+ or SPT+	14	P83885.1	47605398	7
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 4	IgE plus basophil+ or SPT+	115	CAK50389.1	110346534	8
Anisakis simplex	Parasitic fish worm	Ani s 5.0101	Food Animal	Anisakis Ani s 5 SXP/RAL-2 family protein	IgE but no biological test	152	BAF43534.1	121308878	8
Anisakis simplex	Parasitic fish worm	Ani s 7.0101	Food Animal	Anisakis Ani s 7 UA3-recognized allergen	IgE but no biological test	1096	ABL77410.1	119524036	9
Anisakis simplex	Parasitic fish worm	Ani s 8.0101	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	IgE but no biological test	150	BAF75681.1	155676636	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	IgE but no biological test	150	BAF75704.1	155676682	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	IgE but no biological test	150	BAF75705.1	155676684	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	IgE but no biological test	150	BAF75706.1	155676686	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	IgE but no biological test	150	BAF75707.1	155676688	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	IgE but no biological test	150	BAF75708.1	155676690	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	IgE but no biological test	150	BAF75709.1	155676692	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	IgE but no biological test	150	BAF75710.1	155676694	9

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Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	IgE but no biological test	150	BAF75711.1	155676696	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	IgE but no biological test	150	BAF75712.1	155676698	9
Anisakis simplex	Parasitic fish worm	Ani s 9.0101	Food Animal	Anisakis Ani s 9	IgE but no biological test	147	ABV55106.1	157418806	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis simplex troponin-like	IgE but no biological test	161	CAB58171.1	6065738	7
Anthoxanthum odoratum	Sweet vernal grass	Unassigned	Aero Plant	Anthoxanthum Ant o 1	IgE but no biological test	26	G37396	320607	7
Anthoxanthum odoratum	Sweet vernal grass	Ant o 1.0101	Aero Plant	Anthoxanthum Ant o 1	IgE but no biological test	32	Q7M1X6	75139986	7
Anthoxanthum odoratum	Sweet vernal grass	Unassigned	Aero Plant	Anthoxanthum Ant o 1	IgE but no biological test	32	Q7M1Y0	75139990	7
Apis cerana	Indian honeybee	Unassigned	Venom or Salivary	Apis Api m 1 Api d 1 Api c 1	IgE plus basophil+ or SPT+	134	A59055	7435005	7
Apis cerana cerana	Indian honeybee	Api d 1	Venom or Salivary	Apis Api m 1 Api d 1 Api c 1	IgE plus basophil+ or SPT+	134	AAK09361.1	12958583	15
Apis dorsata	Giant honeybee	Api d 1.0101	Venom or Salivary	Apis Api m 1 Api d 1 Api c 1	IgE plus basophil+ or SPT+	134	Q7M4I5.1	47117012	7
Apis dorsata	Giant honeybee	Unassigned	Venom or Salivary	Apis Api m 4 Melittin	IgE but no biological test	26	P01502.1	126955	7
Apis mellifera	Honeybee	Api m 1.0101	Venom or Salivary	Apis Api m 1 Api d 1 Api c 1	IgE plus basophil+ or SPT+	167	P00630.3	24418862	7
Apis mellifera	Honeybee	Unassigned	Venom or Salivary	Apis Api m 10 icarapin	IgE but no biological test	223	ABF21077.1	94471622	7
Apis mellifera	Honeybee	Api m 10.0101	Venom or Salivary	Apis Api m 10 icarapin	IgE but no biological test	175	ABF21078.1	94471624	7
Apis mellifera	Honeybee	Api m 2.0101	Venom or Salivary	Apis Api m 2	IgE plus basophil+ or SPT+	382	Q08169.1	585279	7
Apis mellifera	Honeybee	Unassigned	Venom or Salivary	Apis Api m 3 acid phosphatase	IgE but no biological test	388	ACI25605.1	208342441	10
Apis mellifera	Honeybee	Api m 3.0101	Venom or Salivary	Apis Api m 3 acid phosphatase	IgE but no biological test	388	Q5BLY5.1	74835477	12
Apis mellifera	Honeybee	Api m 4.0101	Venom or Salivary	Apis Api m 4 Melittin	IgE but no biological test	70	CAA26038.1	5622	7
Apis mellifera	Honeybee	Unassigned	Venom or Salivary	Apis Api m 4 Melittin	IgE but no biological test	27	MEHB2	69552	7
Apis mellifera	Honeybee	Api m 5.0101	Venom or Salivary	Apis Api m 5 dipeptidylpeptidase	IgE plus basophil+ or SPT+	775	NP_001119715.1	187281543	15
Apis mellifera	Honeybee	Api m 6.01	Venom or Salivary	Apis Api m 6	IgE but no biological test	92	NP_001035360.1	94400907	7
Apis mellifera	Honeybee	Unassigned	Venom or Salivary	Apis Api m 6	IgE but no biological test	94	ABD51779.1	88770352	10
Apis mellifera	Honeybee	Api m 11.0101	Venom or Salivary	Apis mellifera Api m 11	IgE but no biological test	416	NP_001011564.1	58585070	15
Apis mellifera	Honeybee	Api m 11.0201	Venom or Salivary	Apis mellifera Api m 11	IgE but no biological test	423	AAY21180.1	62910925	15
Apis mellifera	Honeybee	Api m 12.0101	Venom or Salivary	Apis mellifera Api m 12	IgE but no biological test	1770	CAD56944.1	29329817	15
Apis mellifera carnica	Honeybee	Unassigned	Venom or Salivary	Apis Api m 10 icarapin	IgE but no biological test	12	AHM25038.1	594708629	16
Apis mellifera carnica	Honeybee	Unassigned	Venom or Salivary	Apis Api m 10 icarapin	IgE but no biological test	19	AHM25037.1	594708627	16
Apis mellifera carnica	Honeybee	Unassigned	Venom or Salivary	Apis Api m 10 icarapin	IgE but no biological test	25	AHM25036.1	594708625	16
Apis mellifera carnica	Honeybee	Unassigned	Venom or Salivary	Apis Api m 10 icarapin	IgE but no biological test	41	AHM25035.1	594708623	16
Apium graveolens	Celery	Api g 1.0101	Food Plant	Apium Api g 1	IgE plus basophil+ or SPT+	154	P49372.1	1346568	7
Apium graveolens	Celery	Api g 1.0201	Food Plant	Apium Api g 1	IgE plus basophil+ or SPT+	159	P92918.1	14423646	9
Apium graveolens	Celery	Api g 2.0101	Food Plant	Apium Api g 2	IgE plus basophil+ or SPT+	118	ACV04796.1	256600126	12
Apium graveolens	Celery	Api g 4.0101	Food Plant	Apium Api g 4	IgE plus basophil+ or SPT+	134	AAD29409.1	4761578	7
Apium graveolens	Celery	Api g 5.0101	Food Plant	Apium Api g 5	IgE but no biological test	86	P81943.3	33300920	10
Apium graveolens Rapaceum Grou	Celery	Api g 6.0101	Food Plant	Apium graveolens Api g 6 LTP 2	IgE but no biological test	67	P86809.1	550540827	15
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Agglutinin (lectin)	IgE but no biological test	273	AAB22817.1	253289	7
Arachis hypogaea	Peanut	Ara h 1	Food Plant	Arachis Ara h 1	IgE plus basophil+ or SPT+	614	P43237.1	1168390	7
Arachis hypogaea	Peanut	Ara h 1.0101	Food Plant	Arachis Ara h 1	IgE plus basophil+ or SPT+	626	P43238.1	1168391	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	IgE plus basophil+ or SPT+	299	AAT00595.1	46560474	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	IgE plus basophil+ or SPT+	303	AAT00594.1	46560472	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	IgE plus basophil+ or SPT+	428	AAT00596.1	46560476	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	IgE plus basophil+ or SPT+	619	ADQ53858.1	312233063	12
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	IgE plus basophil+ or SPT+	418	3SMH_A	375332427	13
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	IgE plus basophil+ or SPT+	418	3S7E_A	347447588	13
Arachis hypogaea	Peanut	Ara h 12.0101	Food Plant	Arachis Ara h 12	IgE but no biological test	71	B3EWP3.1	1018736824	17
Arachis hypogaea	Peanut	Ara h 13.0102	Food Plant	Arachis Ara h 13 defensin	IgE but no biological test	72	C0HJZ1.1	1018736837	17
Arachis hypogaea	Peanut	Ara h 13.0101	Food Plant	Arachis Ara h 13 defensin	IgE but no biological test	79	B3EWP4.1	1018736830	17
Arachis hypogaea	Peanut	Ara h 2.0201	Food Plant	Arachis Ara h 2	IgE plus basophil+ or SPT+	172	AAN77576.1	26245447	7
Arachis hypogaea	Peanut	Ara a 2	Food Plant	Arachis Ara h 2	IgE plus basophil+ or SPT+	169	AAM78596.1	31322017	7
Arachis hypogaea	Peanut	Ara h 2.0101	Food Plant	Arachis Ara h 2	IgE plus basophil+ or SPT+	156	AAK96887.1	15418705	10
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 2	IgE plus basophil+ or SPT+	158	ACN62248.1	224747150	10
Arachis hypogaea	Peanut	Ara h 3.0101	Food Plant	Arachis Ara h 3 Glycinin	IgE plus basophil+ or SPT+	507	AAC63045.1	3703107	7
Arachis hypogaea	Peanut	Ara h 3.0201	Food Plant	Arachis Ara h 3 Glycinin	IgE plus basophil+ or SPT+	530	AAD47382.1	5712199	7

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Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	IgE plus basophil+ or SPT+	538	AAM46958.1	21314465	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	IgE plus basophil+ or SPT+	219	AAM93157.1	22135348	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	IgE plus basophil+ or SPT+	512	ABI17154.1	112380623	8
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	IgE plus basophil+ or SPT+	530	ACH91862.1	199732457	10
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	IgE plus basophil+ or SPT+	510	3C3V_A	224036293	10
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	IgE plus basophil+ or SPT+	512	ADQ53859.1	312233065	12
Arachis hypogaea	Peanut	Ara h 5.0101	Food Plant	Arachis Ara h 5	IgE plus basophil+ or SPT+	131	AAD55587.1	5902968	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 5	IgE plus basophil+ or SPT+	131	ADB96066.1	284810529	11
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 5	IgE plus basophil+ or SPT+	131	AGA84056.1	431812555	14
Arachis hypogaea	Peanut	Ara h 6.0101	Food Plant	Arachis Ara h 6	IgE plus basophil+ or SPT+	129	AAD56337.1	5923742	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 6	IgE plus basophil+ or SPT+	144	AAL37561.1	17225991	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 6	IgE plus basophil+ or SPT+	127	1W2Q_A	159163254	9
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 6	IgE plus basophil+ or SPT+	145	Q647G9.1	75114094	10
Arachis hypogaea	Peanut	Ara h 7.0201	Food Plant	Arachis Ara h 7	IgE but no biological test	164	ABW17159.1	158121995	10
Arachis hypogaea	Peanut	Ara h 8.0101	Food Plant	Arachis Ara h 8	IgE plus basophil+ or SPT+	157	AAQ91847.1	37499626	7
Arachis hypogaea	Peanut	Ara h 8.0201	Food Plant	Arachis Ara h 8	IgE plus basophil+ or SPT+	153	ABP97433.1	145904610	9
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 8	IgE plus basophil+ or SPT+	157	ACA79908.1	169786740	9
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 8	IgE plus basophil+ or SPT+	157	ABG85155.1	110676574	12
Arachis hypogaea	Peanut	Ara h 9.0101	Food Plant	Arachis Ara h 9 LTP isoallergens	IgE but no biological test	116	ABX56711.1	161087230	10
Arachis hypogaea	Peanut	Ara h 9.0201	Food Plant	Arachis Ara h 9 LTP isoallergens	IgE but no biological test	92	ABX75045.1	161610580	10
Arachis hypogaea	Peanut	Ara h 10.0101	Food Plant	Arachis hypogaea Ara h 10	IgE but no biological test	169	AAU21499.2	113200509	15
Arachis hypogaea	Peanut	Ara h 10.0102	Food Plant	Arachis hypogaea Ara h 10	IgE but no biological test	150	AAU21500.1	52001239	15
Arachis hypogaea	Peanut	Ara h 11.0101	Food Plant	Arachis hypogaea Ara h 11	IgE but no biological test	137	AAZ20276.1	71040655	15
Arachis hypogaea	Peanut	Ara h 11.0102	Food Plant	Arachis hypogaea Ara h 11	IgE but no biological test	137	Q45W86	122218540	16
Arachis hypogaea	Peanut	Ara h 15.0101	Food Plant	Arachis hypogaea oleosin Ara h 15	IgE plus basophil+ or SPT+	166	AAU21501.1	52001241	15
Argas reflexus	European pigeon tick	Arg r 1.0101	Venom or Salivary	Argas Arg r 1	IgE plus basophil+ or SPT+	159	CAG26895.1	58371884	7
Argas reflexus	European pigeon tick	Unassigned	Venom or Salivary	Argas Arg r 1	IgE plus basophil+ or SPT+	144	2X45_A	322812205	12
Artemisia absinthium		Unassigned	Aero Plant	Artemisia vulgaris like Art v 1	IgE but no biological test	108	AHF71021.1	573005946	17
Artemisia annua		Unassigned	Aero Plant	Art an 7 putative galactose oxidase	IgE but no biological test	594	ARQ16437.1	1190354092	19
Artemisia annua		Unassigned	Aero Plant	Artemisia vulgaris like Art v 1	IgE but no biological test	132	ANC85007.1	1026259951	18
Artemisia annua		Unassigned	Aero Plant	Artemisia vulgaris like Art v 1	IgE but no biological test	132	ANC85006.1	1026259949	18
Artemisia argyi		Unassigned	Aero Plant	Art an 7 putative galactose oxidase	IgE but no biological test	594	ARQ16438.1	1190354094	19
Artemisia capillaris		Unassigned	Aero Plant	Art an 7 putative galactose oxidase	IgE but no biological test	594	ARQ16439.1	1190354096	19
Artemisia capillaris		Unassigned	Aero Plant	Art v 1 homologues	IgE but no biological test	132	ANC85010.1	1026259957	18
Artemisia capillaris		Unassigned	Aero Plant	Art v 2 homologues	IgE but no biological test	163	AVD29824.1	1343071174	19
Artemisia gmelinii		Unassigned	Aero Plant	Art an 7 putative galactose oxidase	IgE but no biological test	594	ARQ16440.1	1190354098	19
Artemisia gmelinii		Unassigned	Aero Plant	Art v 1 homologues	IgE but no biological test	132	ANC85012.1	1026259961	18
Artemisia gmelinii		Unassigned	Aero Plant	Art v 1 homologues	IgE but no biological test	132	ANC85011.1	1026259959	18
Artemisia gmelinii		Unassigned	Aero Plant	Art v 2 homologues	IgE but no biological test	163	AVD29825.1	1343071177	19
Artemisia lavandulifolia		Unassigned	Aero Plant	Art an 7 putative galactose oxidase	IgE but no biological test	594	ARQ16441.1	1190354100	19
Artemisia lavandulifolia		Unassigned	Aero Plant	Art v 1 homologues	IgE but no biological test	132	ANC85014.1	1026259965	18
Artemisia lavandulifolia		Unassigned	Aero Plant	Art v 1 homologues	IgE but no biological test	132	ANC85013.1	1026259963	18
Artemisia lavandulifolia		Unassigned	Aero Plant	Art v 2 homologues	IgE but no biological test	163	AVD29826.1	1343071179	19
Artemisia ludoviciana		Unassigned	Aero Plant	Artemisia vulgaris like Art v 1	IgE but no biological test	108	AHF71025.1	573005954	17
Artemisia sieversiana		Unassigned	Aero Plant	Art an 7 putative galactose oxidase	IgE but no biological test	595	ARQ16442.1	1190354102	19
Artemisia sieversiana		Unassigned	Aero Plant	Art v 1 homologues	IgE but no biological test	132	ANC85016.1	1026259969	18
Artemisia sieversiana		Unassigned	Aero Plant	Art v 2 homologues	IgE but no biological test	163	AVD29827.1	1343071181	19
Artemisia tridentata		Unassigned	Aero Plant	Artemisia vulgaris like Art v 1	IgE but no biological test	108	AHF71026.1	573005956	17
Artemisia vulgaris	Mugwort	Unassigned	Aero Plant	Art an 7 putative galactose oxidase	IgE but no biological test	594	ARQ16443.1	1190354104	19
Artemisia vulgaris	Mugwort	Unassigned	Aero Plant	Art v 2 homologues	IgE but no biological test	163	AVD29828.1	1343071183	19
Artemisia vulgaris	Mugwort	Art v 1.0101	Aero Plant	Artemisia Art v 1	IgE plus basophil+ or SPT+	132	AAO24900.1	27818335	7
Artemisia vulgaris	Mugwort	Art v 2.0101	Aero Plant	Artemisia Art v 2	IgE but no biological test	162	CAK50834.1	148887203	9
Artemisia vulgaris	Mugwort	Art v 3.0101	Aero Plant	Artemisia Art v 3	IgE plus basophil+ or SPT+	37	P0C088.1	73621307	7

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Artemisia vulgaris	Mugwort	Art v 3.0201	Aero Plant	Artemisia Art v 3	IgE plus basophil+ or SPT+	114	ACE07186.1	189544578	11
Artemisia vulgaris	Mugwort	Art v 3.0202	Aero Plant	Artemisia Art v 3	IgE plus basophil+ or SPT+	116	ACE07187.1	189544584	11
Artemisia vulgaris	Mugwort	Art v 3.0301	Aero Plant	Artemisia Art v 3	IgE plus basophil+ or SPT+	117	ACE07188.1	189544590	11
Artemisia vulgaris	Mugwort	Unassigned	Aero Plant	Artemisia Art v 3	IgE plus basophil+ or SPT+	117	ACE07189.1	189544595	11
Artemisia vulgaris	Mugwort	Unassigned	Aero Plant	Artemisia Art v 3	IgE plus basophil+ or SPT+	92	6FRR_A	1595430506	20
Artemisia vulgaris	Mugwort	Art v 4.0101	Aero Plant	Artemisia Art v 4	IgE but no biological test	133	CAD12861.1	25955969	15
Artemisia vulgaris	Mugwort	Art v 4.0201	Aero Plant	Artemisia Art v 4	IgE but no biological test	133	CAD12862.1	25955971	15
Artemisia vulgaris	Mugwort	Unassigned	Aero Plant	Artemisia Art v 4	IgE but no biological test	135	5EM0_A	1035439202	18
Artemisia vulgaris	Mugwort	Unassigned	Aero Plant	Artemisia Art v 4	IgE but no biological test	136	6B6J_A	1486941866	20
Artemisia vulgaris	Mugwort	Art v 6.0101	Aero Plant	Artemisia Art v 6 pectate lyase	IgE but no biological test	396	AAX85388.1	62530263	8
Artemisia vulgaris	Mugwort	Art v 5.0101	Aero Plant	Artemisia mugwort Art v 5	IgE plus basophil+ or SPT+	82	AAX85389.1	62530265	15
Arthroderma benhamiae	Fungus	Unassigned	Contact	Trichophyton (Arthroderma) Tri m 4	IgE plus basophil+ or SPT+	726	CAD23611.1	23894232	7
Arthroderma benhamiae	Fungus	Unassigned	Contact	Trichophyton (Arthroderma) Tri r 2	IgE plus basophil+ or SPT+	292	CAD23613.1	23894240	7
Arthroderma benhamiae	Fungus	Unassigned	Contact	Trichophyton (Arthroderma) Tri r 2	IgE plus basophil+ or SPT+	404	CAD23614.1	23894244	7
Arthroderma vanbreuseghemii	Fungus	Unassigned	Contact	Trichophyton (Arthroderma) Tri m 4	IgE plus basophil+ or SPT+	726	BAH09387.1	219687753	10
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	134	AAD13644.1	2735096	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	134	AAD13645.1	2735098	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	133	AAD13647.1	2735102	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	133	AAD13649.1	2735106	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	267	AAD13650.1	2735108	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	267	AAD13651.1	2735110	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	267	AAD13652.1	2735112	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	134	AAB93837.1	2735114	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	134	AAB93839.1	2735118	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	134	AAD13646.1	2735100	7
Ascaris lumbricoides	Parasitic roundworm	Asc l 3.0101	Worm (parasite)	Ascaris tropomyosin Asc l 3	IgE but no biological test	287	ACN32322.1	224016002	10
Ascaris suum	Parasitic roundworm	Asc s 1	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	68	AAB26195.1	299550	7
Ascaris suum	Parasitic roundworm	Asc s 1.0101	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	1365	Q06811.2	77416849	7
Ascaris suum	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	IgE but no biological test	134	2XV9_A	343197079	12
Ascaris suum	Parasitic roundworm	Asc s 13.0101	Worm (parasite)	Ascaris lumbricoides/suum Glutathione S-transfera	IgE plus basophil+ or SPT+	206	P46436.3	1170109	15
Aspergillus flavus	Fungus	Unassigned	Aero Fungi	Aspergillus Oryzin Asp o 13, fl 13	IgE but no biological test	403	Q9UVU3	74665726	7
Aspergillus fumigatus	Fungus	Asp f 1	Aero Fungi	Aspergillus Asp f 1	IgE plus basophil+ or SPT+	125	CAA06305.1	3021324	7
Aspergillus fumigatus	Fungus	Asp f 1	Aero Fungi	Aspergillus Asp f 1	IgE plus basophil+ or SPT+	150	AAF86369.1	9280360	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 1	IgE plus basophil+ or SPT+	176	P67875.1	54039254	7
Aspergillus fumigatus	Fungus	Asp f 10.0101	Aero Fungi	Aspergillus Asp f 10	IgE but no biological test	395	CAA59419.1	963013	7
Aspergillus fumigatus	Fungus	Asp f 11.0101	Aero Fungi	Aspergillus Asp f 11	IgE plus basophil+ or SPT+	178	CAB44442.1	5019414	7
Aspergillus fumigatus	Fungus	Asp f 18.0101	Aero Fungi	Aspergillus Asp f 18 and Asp n 18	IgE but no biological test	495	CAA73782.1	2143220	7
Aspergillus fumigatus	Fungus	Asp f 2	Aero Fungi	Aspergillus Asp f 2	IgE but no biological test	250	AAB07620.1	664852	7
Aspergillus fumigatus	Fungus	Asp f 2.0101	Aero Fungi	Aspergillus Asp f 2	IgE but no biological test	310	P79017.2	83300352	7
Aspergillus fumigatus	Fungus	Asp f 22.0101	Aero Fungi	Aspergillus Asp f 22	IgE but no biological test	438	AAK49451.1	13925873	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 22	IgE but no biological test	438	Q96X30.3	83288046	7
Aspergillus fumigatus	Fungus	Asp f 23.0101	Aero Fungi	Aspergillus Asp f 23	IgE but no biological test	392	AAM43909.1	21215170	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 23	IgE but no biological test	392	Q8NKF4.2	83305621	7
Aspergillus fumigatus	Fungus	Asp f 27.0101	Aero Fungi	Aspergillus Asp f 27	IgE but no biological test	163	CAI78448.1	91680605	7
Aspergillus fumigatus	Fungus	Asp f 28.0101	Aero Fungi	Aspergillus Asp f 28	IgE but no biological test	108	CAI78449.1	91680607	7
Aspergillus fumigatus	Fungus	Asp f 29.0101	Aero Fungi	Aspergillus Asp f 29	IgE but no biological test	110	CAI78450.1	91680609	7
Aspergillus fumigatus	Fungus	Asp f 3.0101	Aero Fungi	Aspergillus Asp f 3	IgE plus basophil+ or SPT+	168	AAB95638.1	2769700	7
Aspergillus fumigatus	Fungus	Asp f 34.0101	Aero Fungi	Aspergillus Asp f 34	IgE plus basophil+ or SPT+	185	CAM54066.1	133920236	8
Aspergillus fumigatus	Fungus	Asp f 4.0101	Aero Fungi	Aspergillus Asp f 4	IgE plus basophil+ or SPT+	286	CAA04959.1	3005839	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 4	IgE plus basophil+ or SPT+	322	O60024.2	83300369	7
Aspergillus fumigatus	Fungus	Asp f 5.0101	Aero Fungi	Aspergillus Asp f 5	IgE but no biological test	634	CAA83015.1	3776613	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 5	IgE but no biological test	634	P46075.3	85541646	11

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Aspergillus fumigatus	Fungus	Asp f 6.0101	Aero Fungi	Aspergillus Asp f 6	IgE plus basophil+ or SPT+	221	AAB60779.1	1648970	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 6	IgE plus basophil+ or SPT+	210	Q92450.3	83305645	7
Aspergillus fumigatus	Fungus	Asp f 7.0101	Aero Fungi	Aspergillus Asp f 7	IgE but no biological test	270	O42799.2	83300389	7
Aspergillus fumigatus	Fungus	Asp f 8.0101	Aero Fungi	Aspergillus Asp f 8	IgE plus basophil+ or SPT+	111	CAB64688.1	6686524	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 8	IgE plus basophil+ or SPT+	111	Q9UUZ6.2	83305635	7
Aspergillus fumigatus	Fungus	Asp f 9.0101	Aero Fungi	Aspergillus Asp f 9	IgE but no biological test	302	CAA11266.1	2879890	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Endo-chitosanase	IgE but no biological test	238	Q875I9.1	74629604	16
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus fumigatus Asp f 13	IgE but no biological test	403	CAA77666.1	2295	15
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus fumigatus Asp f 13	IgE but no biological test	341	CAA75805.1	3549630	16
Aspergillus fumigatus Af293	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 2	IgE but no biological test	304	EAL89830.1	66849502	7
Aspergillus fumigatus Af293	Fungus	Unassigned	Aero Fungi	Aspergillus Endo-chitosanase	IgE but no biological test	242	Q4WB37.1	74666748	16
Aspergillus fumigatus var. RP-2014	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 4	IgE plus basophil+ or SPT+	322	KEY81716.1	666434194	16
Aspergillus fumigatus var. RP-2014	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 7	IgE but no biological test	270	KEY78748.1	666431137	16
Aspergillus niger	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 18 and Asp n 18	IgE but no biological test	533	AAA32702.1	289172	7
Aspergillus niger	Fungus	Asp n 14	Aero Fungi	Aspergillus Asp n 14	IgE but no biological test	804	CAB06417.1	2181180	7
Aspergillus niger	Fungus	Asp n 14.0101	Aero Fungi	Aspergillus Asp n 14	IgE but no biological test	804	AAD13106.1	4235093	7
Aspergillus oryzae	Fungus	Asp o 21	Aero Fungi	Aspergillus Asp o 21	IgE plus basophil+ or SPT+	499	P0C1B3.1	94706935	7
Aspergillus oryzae	Fungus	Asp o 21.0101	Aero Fungi	Aspergillus Asp o 21	IgE plus basophil+ or SPT+	499	AAA32708.1	166531	15
Aspergillus oryzae	Fungus	Asp f o 13.0101	Aero Fungi	Aspergillus Oryzin Asp o 13, fl 13	IgE but no biological test	403	P12547.2	129235	7
Aspergillus versicolor	Fungus	Asp v 13.0101	Aero Fungi	Aspergillus versicolor serine protease	IgE but no biological test	403	ADE74975.1	294441150	16
Bacillus lentus	Bacteria	Unassigned	Bacteria airway	Bacillus lentus subtilisin	IgE but no biological test	269	P29600.1	267048	9
Bacillus licheniformis	Bacteria	Unassigned	Bacteria airway	Bacillus licheniformis subtlilisin	IgE plus basophil+ or SPT+	379	P00780.1	135016	9
Bacillus licheniformis	Bacteria	Unassigned	Bacteria airway	Bacillus licheniformis subtlilisin	IgE plus basophil+ or SPT+	374	AAG31026.1	11127680	9
Bacillus sp.	Bacteria	Unassigned	Bacteria airway	Bacillus lentus Esperase	IgE but no biological test	361	BAA05540.1	1225905	9
Balanus rostratus	Crustacean	Unassigned	Food Animal	Balanus r tropomyosin	IgE but no biological test	284	BAF46896.1	125659386	9
Bassia scoparia	summer cypress	Koc s 1.0101	Aero Plant	Kochia scoparia Koc s 1	IgE but no biological test	167	AKV72169.1	914410012	16
Bassia scoparia	summer cypress	Koc 2 2.0101	Aero Plant	Kochia scoparia Koc s 2.01	IgE but no biological test	133	AIV43661.1	701225194	17
Batillus cornutus	Japanese turban shell	Unassigned	Food Animal	Batillus Tur c1	IgE but no biological test	284	BAH10149.1	219806588	10
Bertholletia excelsa	Brazil nut	Ber e 1.0101	Food Plant	Bertholletia Ber e 1	IgE plus basophil+ or SPT+	146	P04403.2	112754	7
Bertholletia excelsa	Brazil nut	Ber e 2.0101	Food Plant	Bertholletia Ber e 2	IgE but no biological test	465	AAO38859.1	30313867	7
Bertholletia excelsa	Brazil nut	Unassigned	Food Plant	Bertholletia Ber e 2	IgE but no biological test	426	6B4S_A	1534918238	20
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	51	A45786	320545	7
Betula pendula	European white birch	Bet v 1.0301	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA54696.1	534898	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	CAA54695.1	534900	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA54694.1	534910	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA96546.1	1321714	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA96539.1	1321716	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA96540.1	1321718	7
Betula pendula	European white birch	Bet v 1.0205	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA96541.1	1321720	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA96542.1	1321722	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA96543.1	1321724	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA96544.1	1321726	7
Betula pendula	European white birch	Bet v 1.0115	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA96547.1	1321728	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	P43186.2	1168710	7
Betula pendula	European white birch	Bet v 1.0108	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAB02155.1	1542861	7
Betula pendula	European white birch	Bet v 1.0109	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAB02156.1	1542863	7
Betula pendula	European white birch	Bet v 1.0110	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAB02157.1	1542865	7
Betula pendula	European white birch	Bet v 1.0111	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAB02158.1	1542867	7
Betula pendula	European white birch	Bet v 1.0117	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAB02159.1	1542869	7
Betula pendula	European white birch	Bet v 1.0113	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAB02160.1	1542871	7
Betula pendula	European white birch	Bet v 1.0114	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAB02161.1	1542873	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA96545.1	2414158	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA05186.1	2564220	7

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Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA05187.1	2564222	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA05188.1	2564224	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA05190.1	2564228	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA07318.1	4006928	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA07319.1	4006945	7
Betula pendula	European white birch	Bet v 1.0117	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA07323.1	4006953	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA07324.1	4006955	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA07325.1	4006957	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA07326.1	4006959	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA07327.1	4006961	7
Betula pendula	European white birch	Bet v 1.0118	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA07329.1	4006965	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA07330.1	4006967	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	CAA04823.1	4376216	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	CAA04826.1	4376219	7
Betula pendula	European white birch	Bet v 1.0116	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	CAA04827.1	4376220	7
Betula pendula	European white birch	Bet v 1.0206	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	CAA04828.1	4376221	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	CAA04829.1	4376222	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	AAD26560.1	4590392	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	AAD26561.1	4590394	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	AAD26562.1	4590396	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	P43180.2	1168706	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	1QMR_A	11514622	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	21	AAP37482.1	30908931	7
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	1LLT_A	38492423	7
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	43	AAB20452.1	239734	7
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	120	CAA07328.1	4006963	7
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	120	CAA07320.1	4006947	7
Betula pendula	European white birch	Bet v 1.0203	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA54488.1	452742	8
Betula pendula	European white birch	Bet v 1.0207	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	150	ABC41592.1	83722317	8
Betula pendula	European white birch	Bet v 1.0119	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	150	ABC41615.1	83722364	8
Betula pendula	European white birch		Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	1B6F_A	159162097	9
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	4BK7_A	560188693	15
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	4B9R_A	550544347	15
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	4BKC_A	565807648	15
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	4BKD_A	560188694	15
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	4BK6_B	560188692	15
Betula pendula	European white birch	Bet v 1.0101	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA33887.1	17938	15
Betula pendula	European white birch	Bet v 1.0102	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA54482.1	452732	15
Betula pendula	European white birch	Bet v 1.0103	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA54483.1	452734	15
Betula pendula	European white birch	Bet v 1.0104	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA54484.1	452736	15
Betula pendula	European white birch	Bet v 1.0106	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA54487.1	452740	15
Betula pendula	European white birch	Bet v 1.0107	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA54489.1	452744	15
Betula pendula	European white birch	Bet v 1.0201	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA54421.1	450885	15
Betula pendula	European white birch	Bet v 1.0202	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	CAA54481.1	452730	15
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	4BTZ_A	661918055	16
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	159	4Z3L_D	955264732	17
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1b	IgE plus basophil+ or SPT+	51	B45786	320546	7
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 2	IgE plus basophil+ or SPT+	133	1CQA_A	157830684	9
Betula pendula	European white birch	Bet v 2.0101	Aero Plant	Betula Bet v 2	IgE plus basophil+ or SPT+	133	AAA16522.1	166953	11
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 2	IgE plus basophil+ or SPT+	133	A4K9Z8.1	576017922	15
Betula pendula	European white birch	Bet v 3.0101	Aero Plant	Betula Bet v 3	IgE but no biological test	205	CAA55854.1	488605	15
Betula pendula	European white birch	Bet v 4.0101	Aero Plant	Betula Bet v 4	IgE but no biological test	85	CAA60628.1	809536	15
Betula pendula	European white birch	Bet v 6.0102	Aero Plant	Betula Bet v 6	IgE but no biological test	308	AAG22740.1	10764491	7

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Betula pendula	European white birch	Bet v 7.0101	Aero Plant	Betula Bet v 7	IgE but no biological test	173	CAC84116.1	21886603	7
Betula pendula	European white birch	Bet v 8.0101	Aero Plant	Betula Bet v 8 glutathione S-transferase	IgE plus basophil+ or SPT+	237	AHF71027.1	573005958	16
Betula platyphylla	Japanese white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	BAB21489.1	12583681	7
Betula platyphylla	Japanese white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	BAB21490.1	12583683	7
Betula platyphylla	Japanese white birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	160	BAB21491.1	12583685	7
Betula sp.	Birch	Unassigned	Aero Plant	Betula Bet v 1	IgE plus basophil+ or SPT+	51	AAB25850.1	298736	7
Betula sp.	Birch	Unassigned	Aero Plant	Betula Bet v 1b	IgE plus basophil+ or SPT+	51	AAB25851.1	298737	7
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella chymotrypsin-like	IgE but no biological test	252	AJO53282.1	757943154	16
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella 36 kDa allergen	IgE but no biological test	20	AAB29344.1	544618	7
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella 36 kDa allergen	IgE but no biological test	25	AAB29345.1	544619	7
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella arginine kinase Bla g 9	IgE but no biological test	356	ACM24358.1	221602737	10
Blattella germanica	German cockroach	Bla g 9.0101	Aero Insect	Blattella arginine kinase Bla g 9	IgE but no biological test	356	ABC86902.1	86160922	18
Blattella germanica	German cockroach	Bla g 1.0201	Aero Insect	Blattella Bla g 1	IgE plus basophil+ or SPT+	492	AAD13531.1	4240395	7
Blattella germanica	German cockroach	Bla g 1.0101	Aero Insect	Blattella Bla g 1	IgE plus basophil+ or SPT+	412	AAD13530.2	4572592	7
Blattella germanica	German cockroach	Bla g 11.0101	Aero Insect	Blattella Bla g 11 alpha Amylase	IgE but no biological test	515	ABC68516.1	85002763	15
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 2	IgE plus basophil+ or SPT+	330	1YG9_A	62738637	7
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 2	IgE plus basophil+ or SPT+	352	ABP35603.1	145105726	9
Blattella germanica	German cockroach	Bla g 2.0101	Aero Insect	Blattella Bla g 2	IgE plus basophil+ or SPT+	352	AAA86744.1	1176397	11
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 2	IgE plus basophil+ or SPT+	334	3LIZ_A	315113421	12
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 3	IgE but no biological test	657	ACY40650.1	262272875	11
Blattella germanica	German cockroach	Bla g 3.0101	Aero Insect	Blattella Bla g 3	IgE but no biological test	657	ACY40651.1	262272877	11
Blattella germanica	German cockroach	Bla g 4.0101	Aero Insect	Blattella Bla g 4	IgE plus basophil+ or SPT+	182	AAA87851.1	1166573	7
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 4	IgE plus basophil+ or SPT+	182	ABP04043.1	144952778	9
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 4	IgE plus basophil+ or SPT+	181	ACJ37389.1	212675308	10
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 4	IgE plus basophil+ or SPT+	191	ACF53836.1	194350815	11
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 4	IgE plus basophil+ or SPT+	190	ACF53837.1	194350817	11
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 5	IgE plus basophil+ or SPT+	200	ABP04044.1	144952780	9
Blattella germanica	German cockroach	Bla g 5.0101	Aero Insect	Blattella Bla g 5	IgE plus basophil+ or SPT+	200	AAB72147.1	2326190	11
Blattella germanica	German cockroach	Bla g 6.0101	Aero Insect	Blattella Bla g 6	IgE but no biological test	151	ABB89296.1	82704032	8
Blattella germanica	German cockroach	Bla g 6.0201	Aero Insect	Blattella Bla g 6	IgE but no biological test	151	ABB89297.1	82704034	8
Blattella germanica	German cockroach	Bla g 6.0301	Aero Insect	Blattella Bla g 6	IgE but no biological test	154	ABB89298.1	82704036	8
Blattella germanica	German cockroach	Bla g 7.0101	Aero Insect	Blattella Bla g 7	IgE but no biological test	284	AAF72534.1	8101069	7
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella delta GST	IgE but no biological test	216	ABX57814.1	161137518	11
Blomia tropicalis	Mite	Blo t 2.0103	Aero Mite	Blo t 2 type 2 *ver 10	IgE plus basophil+ or SPT+	141	AAQ73481.1	34495268	7
Blomia tropicalis	Mite	Blo t 2.0102	Aero Mite	Blo t 2 type 2 *ver 10	IgE plus basophil+ or SPT+	142	AAQ73482.1	34495270	7
Blomia tropicalis	Mite	Blo t 2.0101	Aero Mite	Blo t 2 type 2 *ver 10	IgE plus basophil+ or SPT+	144	AAQ73483.1	34495272	7
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blo t 2 type 2 *ver 10	IgE plus basophil+ or SPT+	142	ABG76185.1	110560724	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blo t 2 type 2 *ver 10	IgE plus basophil+ or SPT+	142	ABG76186.1	110560726	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blo t 2 type 2 *ver 10	IgE plus basophil+ or SPT+	142	ABG76187.1	110560728	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blo t 2 type 2 *ver 10	IgE plus basophil+ or SPT+	142	ABG76189.1	110560858	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blo t 2 type 2 *ver 10	IgE plus basophil+ or SPT+	142	ABG76190.1	110560860	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blo t 2 type 2 *ver 10	IgE plus basophil+ or SPT+	142	ABG76191.1	110560862	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blo t 2 type 2 *ver 10	IgE plus basophil+ or SPT+	142	ABG76192.1	110560864	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blo t 2 type 2 *ver 10	IgE plus basophil+ or SPT+	142	ABG76193.1	110560866	9
Blomia tropicalis	Mite	Blo t 1.0101	Aero Mite	Blomia Blo t 1.01	IgE but no biological test	221	AAK58415.1	14276828	7
Blomia tropicalis	Mite	Blo t 1.0201	Aero Mite	Blomia Blo t 1.02	IgE but no biological test	333	AAQ24541.1	33667928	8
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 1.02	IgE but no biological test	333	5JT8_B	1199299190	18
Blomia tropicalis	Mite	Blo t 10.0101	Aero Mite	Blomia Blo t 10	IgE plus basophil+ or SPT+	284	ABU97466.1	156938889	9
Blomia tropicalis	Mite	Blo t 11.0101	Aero Mite	Blomia Blo t 11	IgE plus basophil+ or SPT+	875	AAM83103.1	21954740	7
Blomia tropicalis	Mite	Blo t 12.0101	Aero Mite	Blomia Blo t 12	IgE plus basophil+ or SPT+	144	AAA78904.1	902012	7
Blomia tropicalis	Mite	Unassigned	Aero Insect	Blomia Blo t 12	IgE plus basophil+ or SPT+	69	2MFK_A	723586656	16
Blomia tropicalis	Mite	Blo t 13.0101	Aero Mite	Blomia Blo t 13.01	IgE but no biological test	130	AAC80579.1	1377859	7
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 21	IgE plus basophil+ or SPT+	129	ABH06350.1	111120432	8

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Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 21	IgE plus basophil+ or SPT+	129	ABH06347.1	111494253	8
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 21	IgE plus basophil+ or SPT+	129	ABH06346.1	111120424	8
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 21	IgE plus basophil+ or SPT+	129	ABH06348.1	111120428	8
Blomia tropicalis	Mite	Blo t 21.0101	Aero Insect	Blomia Blo t 21	IgE plus basophil+ or SPT+	129	AAX34047.1	60679570	9
Blomia tropicalis	Mite	Blo t 3.0101	Aero Mite	Blomia Blo t 3	IgE but no biological test	266	AAM10779.1	25989482	7
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 3	IgE but no biological test	266	AAQ24542.1	33667930	8
Blomia tropicalis	Mite	Blo t 4.0101	Aero Insect	Blomia Blo t 4 alpha amylase	IgE plus basophil+ or SPT+	506	AAQ24543.1	33667932	8
Blomia tropicalis	Mite	Blo t 5.0101	Aero Mite	Blomia Blo t 5	IgE plus basophil+ or SPT+	134	AAD10850.1	4204917	7
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 5	IgE plus basophil+ or SPT+	134	ABH06352.1	111120436	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 5	IgE plus basophil+ or SPT+	134	ABH06359.1	111120450	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 5	IgE plus basophil+ or SPT+	119	2JMH_A	160285626	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 5	IgE plus basophil+ or SPT+	135	APU87558.1	1131385191	18
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 5	IgE plus basophil+ or SPT+	133	APU87557.1	1131385189	18
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 5	IgE plus basophil+ or SPT+	135	APU87556.1	1131385187	18
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 5	IgE plus basophil+ or SPT+	134	APU87554.1	1131385183	18
Blomia tropicalis	Mite	Unassigned	Aero Insect	Blomia Blo t 7	IgE but no biological test	192	AAQ24545.1	33667936	8
Blomia tropicalis	Mite	Blo t 7.0101	Aero Mite	Blomia Blo t 7	IgE but no biological test	195	ASX95438.1	1241067909	18
Blomia tropicalis	Mite	Unassigned	Aero Insect	Blomia Blo t 8	IgE but no biological test	236	AAP35069.1	37958149	8
Blomia tropicalis	Mite	Blo t 8.0101	Aero Insect	Blomia Blo t 8	IgE but no biological test	236	ACV04860.1	256665455	11
Bombus pennsylvanicus	Bumblebee	Bom p 1.0101	Venom or Salivary	Bombus Bom p 1	IgE but no biological test	136	Q7M4I6.1	47117013	12
Bombus pennsylvanicus	Bumblebee	Bom p 4.0101	Venom or Salivary	Bombus Bom p 4 protease	IgE but no biological test	243	Q7M4I3.1	75009997	12
Bombus terrestris	Bumblebee	Bom t 1.0101	Venom or Salivary	Bombus Bom t 1	IgE but no biological test	136	P82971.1	14423832	7
Bombus terrestris	Bumblebee	Bom t 4.0101	Venom or Salivary	Bombus Bom t 4 protease	IgE but no biological test	20	P0CH88.1	313471465	12
Bombyx mori	Silkworm	Bomb m 1.0101	Aero Insect	Bombyx Bomb m 1	IgE but no biological test	355	ABB88514.1	82658675	15
Bos grunniens mutus	Yak	Bos d 11.0101	Food Animal	Bos Bos d 11 beta casein	IgE plus basophil+ or SPT+	259	XP_005902099.2	942073448	16
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	IgE plus basophil+ or SPT+	93	AAA62707.1	162650	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	IgE plus basophil+ or SPT+	214	AAA30429.1	162794	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	IgE plus basophil+ or SPT+	76	AAA30478.1	162927	7
Bos taurus	Bovine	Bos d 9.0101	Food Animal	Bos Alpha-s1 casein	IgE plus basophil+ or SPT+	214	NP_851372.1	30794348	8
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	IgE plus basophil+ or SPT+	205	ABW98943.1	159793197	9
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	IgE plus basophil+ or SPT+	172	ABW98945.1	159793201	9
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	IgE plus basophil+ or SPT+	129	ABW98953.1	159793217	9
Bos taurus	Bovine	Bos d 10.0101	Food Animal	Bos Bos d 10	IgE plus basophil+ or SPT+	222	NP_776953.1	27806963	15
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 11 beta casein	IgE plus basophil+ or SPT+	224	AAA30430.1	162797	7
Bos taurus	Bovine	Bos d 11.0101	Food Animal	Bos Bos d 11 beta casein	IgE plus basophil+ or SPT+	224	AAA30431.1	162805	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 11 beta casein	IgE plus basophil+ or SPT+	224	AAB29137.1	459292	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 12	IgE plus basophil+ or SPT+	190	AAA30433.1	162811	7
Bos taurus	Bovine	Bos d 12.0101	Food Animal	Bos Bos d 12	IgE plus basophil+ or SPT+	190	NP_776719.1	27881412	15
Bos taurus	Bovine	Bos d 2.0101	Aero Animal	Bos Bos d 2	IgE but no biological test	172	AAB08720.1	886215	7
Bos taurus	Bovine	Bos d 3.0101	Aero Animal	Bos Bos d 3	IgE but no biological test	101	Q28050.1	2493414	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 4	IgE plus basophil+ or SPT+	142	CAA29664.1	295774	7
Bos taurus	Bovine	Bos d 4.0101	Food Animal	Bos Bos d 4	IgE plus basophil+ or SPT+	142	AAA30615.1	163283	15
Bos taurus	Bovine	Bos d 5.0101	Food Animal	Bos Bos d 5	IgE plus basophil+ or SPT+	178	CAA32835.1	520	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 5	IgE plus basophil+ or SPT+	178	P02754.3	125910	9
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 5	IgE plus basophil+ or SPT+	178	ACG59280.1	195957138	10
Bos taurus	Bovine	Bos d 6.0101	Food Animal	Bos Bos d 6	IgE plus basophil+ or SPT+	607	AAA51411.1	162648	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 6	IgE plus basophil+ or SPT+	607	CAA76847.1	3336842	7
Bos taurus	Bovine	Unassigned	Vaccine	Bos collagen alpha2	IgE plus basophil+ or SPT+	1364	NP_776945.1	27806257	11
Bos taurus	Bovine	Unassigned	Food Animal	Bos lactotransferrin	IgE but no biological test	708	NP_851341.1	30794292	8
Brassica juncea	Mustard	Bra j 1.0101	Food Plant	Brassica Bra j 1 2S albumin	IgE but no biological test	129	P80207.1	32363444	9
Brassica napus	Rape	Bra n 1.0101	Food Plant	Bra n 1	IgE but no biological test	125	P80208.1	75107016	9
Brassica napus	Rape	Unassigned	Aero Plant	Bra n Bra r 2	IgE but no biological test	83	S65144	2129801	7
Brassica napus	Rape	Unassigned	Aero Plant	Bra n Bra r 2	IgE but no biological test	83	S65145	2129802	7

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Brassica napus	Rape	Unassigned	Food Plant	Brassica napus 2S albumin	IgE but no biological test	109	AAN86249.1	26985163	7
Brassica oleracea var. oleracea	Wild cabbage	Bra o 3.0101	Aero Plant	Brassica Bra o 3 LTP full length	IgE plus basophil+ or SPT+	112	XP_013623213.1	922434456	16
Brassica rapa	Turnip	Unassigned	Aero Plant	Bra n Bra r 2	IgE but no biological test	80	S65143	2129805	7
Brassica rapa	Turnip	Bra r 1.0101	Food Plant	Brassica Bra r 1	IgE but no biological test	178	CAA46782.1	17697	9
Brassica rapa	Turnip	Bra r 5.0101	Food Plant	Brassica Calcim binding protein Group I	IgE but no biological test	79	BAA09634.1	1255540	15
Brassica rapa subsp. rapa	Turnip	Unassigned	Aero Plant	Bra n Bra r 2	IgE but no biological test	83	P69199.1	59800146	7
Brassica rapa subsp. rapa	Turnip	Bra r 2.0101	Contact	Brassica Bra r 2	IgE but no biological test	91	P81729.1	32363456	9
Candida albicans	Yeast	Cand a 1.0101	Contact	Candida Cand a 1 Alcohol dehydrogenase	IgE but no biological test	350	CAA57342.1	608690	15
Candida albicans	Yeast	Cand a 3.0101	Contact	Candida Cand a 3 Peroxysomal protein	IgE but no biological test	236	AAN11300.1	37548637	7
Candida albicans	Yeast	Unassigned	Contact	Candida Enolase 1	IgE plus basophil+ or SPT+	440	P30575.1	232054	7
Canis familiaris	Dog	Can f 1.0101	Aero Animal	Canis Can f 1 Lipocalin	IgE plus basophil+ or SPT+	174	AAC48794.1	2598974	11
Canis familiaris	Dog	Can f 2	Aero Animal	Canis Can f 2 Lipocalin	IgE plus basophil+ or SPT+	177	CAD82911.1	29292272	7
Canis familiaris	Dog	Can f 2	Aero Animal	Canis Can f 2 Lipocalin	IgE plus basophil+ or SPT+	179	CAD82912.1	29292274	7
Canis familiaris	Dog	Can f 2.0101	Aero Animal	Canis Can f 2 Lipocalin	IgE plus basophil+ or SPT+	180	AAC48795.1	2598976	11
Canis familiaris	Dog	Can f 3	Aero Animal	Canis Can f 3 Serum albumin	IgE plus basophil+ or SPT+	265	AAB30434.1	633938	7
Canis familiaris	Dog	Can f 3	Aero Animal	Canis Can f 3 Serum albumin	IgE plus basophil+ or SPT+	585	CAA76841.1	3319897	7
Canis familiaris	Dog	Can f 3.0101	Aero Animal	Canis Can f 3 Serum albumin	IgE plus basophil+ or SPT+	608	BAC10663.1	22531688	15
Canis familiaris	Dog	Can f 4.0101	Aero Animal	Canis Can f 4 epithelial 18 kDa	IgE but no biological test	174	ACY38525.1	262232390	12
Canis familiaris	Dog	Unassigned	Aero Animal	Canis Can f 4 epithelial 18 kDa	IgE but no biological test	174	AHY24648.1	625295108	16
Canis familiaris	Dog	Can f 5.0101	Aero Animal	Canis Can f 5	IgE but no biological test	260	CAA68720.1	868	15
Canis familiaris	Dog	Can f 6.0101	Aero Animal	Canis Can f 6 Lipocalin	IgE but no biological test	190	CCF72371.1	374092884	13
Canis familiaris	Dog	Unassigned	Aero Animal	Canis Can f 6 Lipocalin	IgE but no biological test	177	5X7Y_D	1374502923	19
Canis familiaris	Dog	Can f 7.0101	Aero Animal	Canis familiarisCan f 7	IgE but no biological test	149	AAB34263.1	945179	16
Cannabis sativa	Hemp	Can s 3.0101	Aero Plant	Cannabis LTP Can s 3	IgE plus basophil+ or SPT+	91	CCK33472.1	571256597	15
Capsicum annuum	Bell pepper	Cap a 1.0101	Food Plant	Capsicum Cap a 1	IgE but no biological test	246	CAC34055.2	16609959	7
Capsicum annuum	Bell pepper	Cap a 2.0101	Food Plant	Capsicum Cap a 2	IgE but no biological test	131	CAD10376.1	16555785	7
Carica papaya	Papaya	Cari p 1.0101	Food Plant	Cari p 1.0101 endo polygalacturonase	IgE plus basophil+ or SPT+	494	ACV85695.1	258640138	18
Carica papaya	Papaya		Aero Plant	Carica papain (Car p 1 not IUIS)	IgE plus basophil+ or SPT+	345	AAB02650.1	167391	7
Carpinus betulus	Hornbeam	Car b 1.0102	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	159	CAA47357.1	402745	7
Carpinus betulus	Hornbeam	Car b 1.0103	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	160	CAB02206.1	1545875	7
Carpinus betulus	Hornbeam	Car b 1.0104	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	160	CAB02207.1	1545877	7
Carpinus betulus	Hornbeam	Car b 1.0105	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	160	CAB02208.1	1545879	7
Carpinus betulus	Hornbeam	Car b 1.0108	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	160	CAB02215.1	1545893	7
Carpinus betulus	Hornbeam	Car b 1.0301	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	161	CAB02216.1	1545895	7
Carpinus betulus	Hornbeam	Car b 1.0302	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	161	CAB02217.1	1545897	7
Carpinus betulus	Hornbeam	Unassigned	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	40	AAB20453.1	239735	7
Carpinus betulus	Hornbeam	Car b 1.0113	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	160	ABZ81044.1	167472845	10
Carpinus betulus	Hornbeam	Car b 1.0109	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	160	ABZ81040.1	167472837	10
Carpinus betulus	Hornbeam	Car b 1.0112	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	160	ABZ81043.1	167472843	10
Carpinus betulus	Hornbeam	Car b 1.0111	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	160	ABZ81042.1	167472841	10
Carpinus betulus	Hornbeam	Car b 1.0110	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	160	ABZ81041.1	167472839	10
Carpinus betulus	Hornbeam	Unassigned	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	80	AAB34907.1	1008578	12
Carpinus betulus	Hornbeam	Unassigned	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	80	AAB34908.1	1008579	12
Carpinus betulus	Hornbeam	Unassigned	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	80	AAB34909.1	1008580	12
Carpinus betulus	Hornbeam	Car b 1.0101	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	159	CAA47366.1	402743	15
Carpinus betulus	Hornbeam	Car b 1.0106	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	160	CAB02209.1	1545881	15
Carpinus betulus	Hornbeam	Car b 1.0107	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	160	CAB02213.1	1545889	15
Carpinus betulus	Hornbeam	Car b 1.0201	Aero Plant	Carpinus Car b 1	IgE plus basophil+ or SPT+	159	CAA47367.1	402747	15
Carya illinoinensis	Pecan	Car i 1.0101	Food Plant	Carya Car i 1 Seed storage protein	IgE but no biological test	143	AAO32314.1	28207731	7
Carya illinoinensis	Pecan	Car i 4.0101	Food Plant	Carya Car i 4 11s legumin	IgE but no biological test	505	ABW86978.1	158998780	14
Carya illinoinensis	Pecan	Unassigned	Food Plant	Carya Car i 4 11s legumin	IgE but no biological test	505	ABW86979.1	158998782	14
Carya illinoinensis	Pecan	Car i 2.0101	Food Plant	Carya i Car i 2.0101 vicilin	IgE but no biological test	792	ABV49590.1	157384600	15
Carya illinoinensis	Pecan		Food Plant	Carya i Car i 2.0101 vicilin	IgE but no biological test	426	5E1R_F	1052244924	18

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Caryota mitis	Fishtail Palm	Unassigned	Aero Plant	Caryota profilin	IgE but no biological test	131	ABM53030.1	121277849	8
Castanea sativa	European chestnut		Aero Plant	Castanea Cas s 1	IgE but no biological test	160	CAD10374.1	16555781	7
Castanea sativa	European chestnut	Unassigned	Aero Plant	Castanea Cas s 1	IgE but no biological test	159	ACJ23862.1	212291466	10
Castanea sativa	European chestnut	Cas s 1.0101	Aero Plant	Castanea Cas s 1	IgE but no biological test	159	ACJ23861.1	212291464	10
Castanea sativa	European chestnut	Unassigned	Aero Plant	Castanea Cas s 1	IgE but no biological test	159	ACJ23863.1	212291468	10
Castanea sativa	European chestnut	Cas s 5.0101	Food Plant	Castanea Cas s 5	IgE plus basophil+ or SPT+	316	CAA64868.1	1359600	7
Castanea sativa	European chestnut	Unassigned	Food Plant	Castanea Cas s 5	IgE plus basophil+ or SPT+	298	ADN39439.1	307159110	12
Catharanthus roseus	Madagascar periwinkle	Cat r 1.0101	Aero Plant	Catharanthus cyclophilin	IgE plus basophil+ or SPT+	172	CAA59468.1	1220142	13
Cavia porcellus	Domestic guinea pig	Cav p 1.0101	Aero Animal	Cavia Cav p 1	IgE but no biological test	166	VEV85353.1	1604536255	20
Cavia porcellus	Domestic guinea pig	Cav p 1.0102	Aero Animal	Cavia Cav p 1	IgE but no biological test	166	VEV85354.1	1604536257	20
Cavia porcellus	Domestic guinea pig	Cav p 2.0101	Aero Animal	Cavia Cav p 2	IgE plus basophil+ or SPT+	170	CAX62129.1	325910590	12
Cavia porcellus	Domestic guinea pig	Cav p 3.0101	Aero Animal	Cavia Cav p 3 lipocalin	IgE plus basophil+ or SPT+	170	CAX62130.1	325910592	12
Chamaecyparis obtusa	Japanese cypress	Cha o 1.0101	Aero Plant	Chamaecyparis Cha o 1	IgE but no biological test	375	BAA08246.1	1514943	7
Chamaecyparis obtusa	Japanese cypress	Cha o 2.0101	Aero Plant	Chamaecyparis Cha o 2	IgE but no biological test	514	Q7M1E7.1	47606004	7
Chamaecyparis obtusa	Japanese cypress	Unassigned	Aero Plant	Chamaecyparis Cha o 2	IgE but no biological test	419	BAF32143.1	114841683	8
Chamaecyparis obtusa	Japanese cypress	Cha o 3.0101	Aero Plant	Chamaecyparis obtusa Cha o 3	IgE plus basophil+ or SPT+	556	C0HLA0.1	1407868342	19
Charybdis feriatus	Crab	Cha f 1.0101	Food Animal	Charybdis Cha f 1	IgE but no biological test	264	AAF35431.1	7024506	7
Chenopodium album	Pigweed	Che a 1.0101	Aero Plant	Chenopodium Che a 1	IgE but no biological test	168	AAL07319.1	22074346	7
Chenopodium album	Pigweed	Che a 2.0101	Aero Plant	Chenopodium Che a 2	IgE plus basophil+ or SPT+	131	AAL92870.1	29465666	7
Chenopodium album	Pigweed	Unassigned	Aero Plant	Chenopodium Che a 2	IgE plus basophil+ or SPT+	133	ACR77509.1	238886048	11
Chenopodium album	Pigweed	Che a 3.0101	Aero Plant	Chenopodium Che a 3	IgE but no biological test	86	AAL92871.1	29465668	7
Chionoecetes opilio	Snow Crab	Unassigned	Food Animal	Chionoecetes tropomyosin	IgE but no biological test	284	A2V735.1	308191588	12
Chironomus kiiensis	Midge	Chi k 10.0101	Aero Insect	Chironomus Chi k 10	IgE but no biological test	285	CAA09938.2	7321108	7
Chironomus thummi thummi	Midge	Chi t 1.0101	Aero Insect	Chironomus Chi t 1	IgE but no biological test	151	P02229.2	121219	7
Chironomus thummi thummi	Midge	Chi t 1.0201	Aero Insect	Chironomus Chi t 1	IgE but no biological test	151	P02230.1	121227	7
Chironomus thummi thummi	Midge	Chi t 2.0101	Aero Insect	Chironomus Chi t 2	IgE but no biological test	158	P02221.2	2506460	7
Chironomus thummi thummi	Midge	Chi t 3.0601	Aero Insect	Chironomus Chi t 3	IgE but no biological test	161	P84296.1	56405052	7
Chironomus thummi thummi	Midge	Chi t 3.0901	Aero Insect	Chironomus Chi t 3	IgE but no biological test	151	P02227.1	121237	7
Chironomus thummi thummi	Midge	Chi t 3.0501	Aero Insect	Chironomus Chi t 3	IgE but no biological test	161	P12548.1	121244	7
Chironomus thummi thummi	Midge	Chi t 3.0701	Aero Insect	Chironomus Chi t 3	IgE but no biological test	161	P84298.1	56405054	7
Chironomus thummi thummi	Midge	Chi t 3.0702	Aero Insect	Chironomus Chi t 3	IgE but no biological test	161	P12549.1	121248	7
Chironomus thummi thummi	Midge	Chi t 3.0801	Aero Insect	Chironomus Chi t 3	IgE but no biological test	162	P12550.1	121249	7
Chironomus thummi thummi	Midge	Chi t 3.0301	Aero Insect	Chironomus Chi t 3	IgE but no biological test	161	P02226.2	56405306	7
Chironomus thummi thummi	Midge	Chi t 3.0101	Aero Insect	Chironomus Chi t 3	IgE but no biological test	160	P02222.2	1707908	7
Chironomus thummi thummi	Midge	Chi t 3.0401	Aero Insect	Chironomus Chi t 3	IgE but no biological test	161	P02223.2	1707911	7
Chironomus thummi thummi	Midge	Chi t 3.0201	Aero Insect	Chironomus Chi t 3	IgE but no biological test	162	P02224.2	2506461	7
Chironomus thummi thummi	Midge	Chi t 4.0101	Aero Insect	Chironomus Chi t 4	IgE but no biological test	151	P02231.1	121256	7
Chironomus thummi thummi	Midge	Chi t 9.0101	Aero Insect	Chironomus Chi t 9	IgE but no biological test	151	P02228.1	121259	7
Chortoglyphus arcuatus		Unassigned	Aero Mite	Cho a 10.0101	IgE but no biological test	284	AEX31649.1	371500880	13
Citrullus lanatus		Citr l 2.0101	Food Plant	Citrullus lanatus Citr l 2	IgE plus basophil+ or SPT+	131	AAU43733.1	52352489	17
Citrus limon	Lemon	Cit l 3.0101	Food Plant	Citrus LTP Cit s 3/Cit l 3	IgE plus basophil+ or SPT+	20	P84160.1	52783176	7
Citrus sinensis	Navel orange	Cit s 1.0101	Food Plant	Citrus Cit s 1	IgE plus basophil+ or SPT+	25	P84159.1	52782810	7
Citrus sinensis	Navel orange	Cit s 2.0101	Food Plant	Citrus Cit s 2	IgE plus basophil+ or SPT+	131	CAI23765.1	56000996	7
Citrus sinensis	Navel orange	Cit s 3.0101	Food Plant	Citrus LTP Cit s 3/Cit l 3	IgE plus basophil+ or SPT+	20	P84161.1	52783177	7
Citrus sinensis	Navel orange	Cit s 3.0102	Food Plant	Citrus LTP Cit s 3/Cit l 3	IgE plus basophil+ or SPT+	91	CAH03799.1	50199132	7
Citrus sinensis	Navel orange	Cit s 7	Food Plant	Citrus sinensis Cit s 7	IgE plus basophil+ or SPT+	88	XP_006472264.1	568836465	20
Cladosporium cladosporioides	Fungus	Cla c 14.0101	Aero Fungi	Cladosporium Cla c 14	IgE but no biological test	325	ADK47394.1	301015198	15
Cladosporium cladosporioides	Fungus	Cla c 9.0101	Aero Fungi	Cladosporium Cla c 9 Davidiella	IgE but no biological test	388	ABQ59329.1	148361511	11
Clupea harengus	Atlantic herring	Clu h 1.0101	Food Animal	Clupea Clu h 1	IgE but no biological test	109	CAQ72970.1	242253963	11
Clupea harengus	Atlantic herring	Clu h 1.0201	Food Animal	Clupea Clu h 1	IgE but no biological test	110	CAQ72971.1	242253965	11
Clupea harengus	Atlantic herring	Clu h 1.0301	Food Animal	Clupea Clu h 1	IgE but no biological test	109	CAQ72972.1	242253967	11
Cochliobolus lunatus	Fungus	Cur l 2.0101	Aero Fungi	Curvularia lunata enolase Cur l 2.01 Cochliobolus	IgE but no biological test	440	AAK67491.1	14585753	8

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Cochliobolus lunatus	Fungus	Cur l 3.0101	Aero Fungi	Curvularia lunatua Cur l 3 Cochliobolus	IgE plus basophil+ or SPT+	108	AAK67492.1	14585755	15
Cochliobolus lunatus	Fungus	Cur l 4.0101	Aero Fungi	Curvularia Cur l 4	IgE plus basophil+ or SPT+	506	ACF19589.1	193507493	15
Cochliobolus lunatus	Fungus	Unassigned	Aero Fungi	Curvularia lunata alcohol dehydrogenase	IgE but no biological test	352	ABC88428.1	86278351	17
Coffea arabica	Coffee	Cof a 3.0101	Food Plant	Coffea Cof a 3	IgE but no biological test	65	AGL34968.1	494319676	15
Coffea arabica	Coffee	Cof a 1.0101	Food Plant	Coffea Cof a 1	IgE but no biological test	263	ADH10372.1	296399179	15
Coffea arabica	Coffee	Cof a 2.0101	Food Plant	Coffea Cof a 2	IgE but no biological test	80	AGL34967.1	494319674	15
Coprinus comatus	Shaggy mane	Cop c 1.0101	Food Fungi	Coprinus Cop c 1	IgE but no biological test	81	CAB39376.1	4538529	7
Coptotermes formosanus		Unassigned	Food Animal	Coptotermes Copt f 7	IgE but no biological test	256	AGM32377.1	506968067	19
Corylus avellana	European hazelnut	Cor a 1.0103	Aero Plant	Corylus Cor a 1	IgE plus basophil+ or SPT+	160	CAA50325.1	22684	7
Corylus avellana	European hazelnut	Cor a 1.0104	Aero Plant	Corylus Cor a 1	IgE plus basophil+ or SPT+	160	CAA50326.1	22686	7
Corylus avellana	European hazelnut	Cor a 1.0102	Aero Plant	Corylus Cor a 1	IgE plus basophil+ or SPT+	160	CAA50328.1	22690	7
Corylus avellana	European hazelnut	Cor a 1.0201	Aero Plant	Corylus Cor a 1	IgE plus basophil+ or SPT+	160	CAA96548.1	1321731	7
Corylus avellana	European hazelnut	Cor a 1.0301	Aero Plant	Corylus Cor a 1	IgE plus basophil+ or SPT+	160	CAA96549.1	1321733	7
Corylus avellana	European hazelnut	Cor a 1.0401	Food Plant	Corylus Cor a 1	IgE plus basophil+ or SPT+	161	AAD48405.1	5726304	7
Corylus avellana	European hazelnut	Cor a 1.0402	Food Plant	Corylus Cor a 1	IgE plus basophil+ or SPT+	161	AAG40329.1	11762102	7
Corylus avellana	European hazelnut	Cor a 1.0403	Food Plant	Corylus Cor a 1	IgE plus basophil+ or SPT+	161	AAG40330.1	11762104	7
Corylus avellana	European hazelnut	Cor a 1.0404	Food Plant	Corylus Cor a 1	IgE plus basophil+ or SPT+	161	AAG40331.1	11762106	7
Corylus avellana	European hazelnut	Cor a 1.0101	Food Plant	Corylus Cor a 1	IgE plus basophil+ or SPT+	160	CAA50327.1	22688	15
Corylus avellana	European hazelnut	Cor a 11.0101	Food Plant	Corylus Cor a 11	IgE plus basophil+ or SPT+	448	AAL86739.1	19338630	7
Corylus avellana	European hazelnut	Cor a 12.0101	Food Plant	Corylus Cor a 12	IgE plus basophil+ or SPT+	159	AAO67349.2	49617323	15
Corylus avellana	European hazelnut	Cor a 13.0101	Food Plant	Corylus Cor a 13 Oleosin	IgE but no biological test	140	AAO65960.1	29170509	7
Corylus avellana	European hazelnut	Cor a 14.0101	Food Plant	Corylus Cor a 14 2S albumin	IgE plus basophil+ or SPT+	147	ACO56333.1	226437844	11
Corylus avellana	European hazelnut	Cor a 2.0101	Aero Plant	Corylus Cor a 2 profilins	IgE but no biological test	131	AAK01235.1	12659206	7
Corylus avellana	European hazelnut	Cor a 2.0102	Aero Plant	Corylus Cor a 2 profilins	IgE but no biological test	131	AAK01236.1	12659208	7
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	IgE but no biological test	131	A4KA41.1	576017879	15
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	IgE but no biological test	133	A4KA40.1	576017878	15
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	IgE but no biological test	133	A4KA44.1	576017819	15
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	IgE but no biological test	131	A4KA43.1	576017779	15
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	IgE but no biological test	133	A4KA45.1	576017777	15
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	IgE but no biological test	133	A4KA39.1	576017776	15
Corylus avellana	European hazelnut	Cor a 8.0101	Food Plant	Corylus Cor a 8	IgE but no biological test	115	AAK28533.1	13507262	7
Corylus avellana	European hazelnut	Cor 1 9.0101	Food Plant	Corylus Cor a 9	IgE plus basophil+ or SPT+	515	AAL73404.1	18479082	7
Corylus avellana	European hazelnut	Unassigned	Aero Plant	Corylus Cor a 9	IgE plus basophil+ or SPT+	514	AHA36627.1	557792009	16
Crangon crangon	Shrimp	Cra c 1.0101	Food Animal	Crangon Cra c 1 tropomyosin	IgE but no biological test	284	ACR43473.1	238477263	12
Crangon crangon	Shrimp	Cra c 2.0101	Food Animal	Crangon Cra c 2 arginine kinase	IgE but no biological test	356	ACR43474.1	238477265	12
Crangon crangon	Shrimp	Cra c 4.0101	Food Animal	Crangon Cra c 4 sarcoplasmic calcium-binding prote	IgE but no biological test	193	ACR43475.1	238477327	12
Crangon crangon	Shrimp	Cra c 5.0101	Food Animal	Crangon Cra c 5 myosin light chain	IgE but no biological test	153	ACR43477.1	238477331	12
Crangon crangon	Shrimp	Cra c 6.0101	Food Animal	Crangon Cra c 6 troponin C	IgE but no biological test	150	ACR43478.1	238477333	12
Crangon crangon	Shrimp	Cra c 8.0101	Food Animal	Crangon Cra c 8 triosephosphate isomerase	IgE but no biological test	249	ACR43476.1	238477329	12
Crassostrea gigas	American oyster	Cra g 1.0102	Food Animal	Crassostrea Tropomyosin Cra g 1	IgE but no biological test	284	BAH10152.1	219806594	10
Crassostrea gigas	American oyster	Cra g 1.0101	Food Animal	Crassostrea Tropomyosin Cra g 1	IgE but no biological test	284	ARX70262.1	1203820203	18
Crassostrea virginica	Eastern oyster	Unassigned	Food Animal	Crassostrea Tropomyosin Cra g 1	IgE but no biological test	160	AAC61869.1	3668408	7
Crocus sativus	Saffron crocus	Cro s 1.0101	Aero Plant	Crocus Cro s 1	IgE but no biological test	168	AAX93750.1	62720370	7
Crocus sativus	Saffron crocus	Cro s 2.0101	Aero Plant	Crocus profilin Cro s 2	IgE but no biological test	131	AAW81034.1	58700651	7
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria class IV chitinase	IgE but no biological test	281	BAD77932.1	56550550	7
Cryptomeria japonica	Japanese cedar	Cry j 1.0102	Aero Plant	Cryptomeria Cry j 1	IgE but no biological test	374	BAA05543.1	493634	8
Cryptomeria japonica	Japanese cedar	Cry j 1.0101	Aero Plant	Cryptomeria Cry j 1	IgE but no biological test	374	BAA05542.1	493632	15
Cryptomeria japonica	Japanese cedar	Cry j 1.0103	Aero Plant	Cryptomeria Cry j 1	IgE but no biological test	374	BAA07020.1	516728	15
Cryptomeria japonica	Japanese cedar		Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	P43212.1	1171004	7
Cryptomeria japonica	Japanese cedar		Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAC23082.1	24898904	7
Cryptomeria japonica	Japanese cedar		Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAC23083.1	24898906	7
Cryptomeria japonica	Japanese cedar		Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAC23084.1	24898908	7

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Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAF32105.1	114841607	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAF32110.1	114841617	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAF32116.1	114841629	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAF32119.1	114841635	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAF32122.1	114841641	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAF32128.1	114841653	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAF32130.1	114841657	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAF32133.1	114841663	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAF32134.1	114841665	8
Cryptomeria japonica	Japanese cedar	Cry j 2.0101	Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	514	BAA06172.1	506858	9
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	IgE plus basophil+ or SPT+	65	BAF45320.1	123299282	9
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Isoflavone reductase-like protein	IgE but no biological test	306	AAK27264.1	19847822	7
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria pollen allergen CJP-8	IgE but no biological test	165	BAI94503.1	291621332	12
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria pollen allergen CPA63	IgE but no biological test	472	BAJ04354.1	293329689	12
Cryptomeria japonica	Japanese cedar	Unassigned	Venom or Salivary	Cryptomeria thaumatin like Cry j 3.8	IgE plus basophil+ or SPT+	225	BAF51970.1	139002766	8
Ctenopharyngodon idella		Unassigned	Food Animal	Cten i 1 parvalbumin	IgE but no biological test	109	QCY53440.1	1679379623	20
Cucumis melo	Muskmelon	Cuc m 1.0101	Food Plant	Cucumis Cuc m 1	IgE but no biological test	731	BAA06905.1	807698	7
Cucumis melo	Muskmelon	Unassigned	Food Plant	Cucumis Cuc m 2	IgE plus basophil+ or SPT+	131	CAD92666.1	31559374	7
Cucumis melo	Muskmelon	Cuc m 2.0101	Food Plant	Cucumis Cuc m 2	IgE plus basophil+ or SPT+	131	AAW69549.1	58263793	7
Cucumis melo	Muskmelon	Cuc m 3.0101	Food Plant	Cucumis Cuc m 3	IgE plus basophil+ or SPT+	41	P83834.1	46396595	9
Cucumis melo var. inodorus	Muskmelon	Unassigned	Food Plant	Cucumis Cuc m 3	IgE plus basophil+ or SPT+	151	ACB45874.1	171464770	9
Cucumis melo var. reticulatus	Netted muskmelon	Unassigned	Food Plant	Cucumis Cuc m 2	IgE plus basophil+ or SPT+	131	AAP13533.2	57021110	7
Cucurbita maxima		Unassigned	Food Plant	Cuc ma 4	IgE but no biological test	480	P13744.1	112677	20
Cucurbita maxima		Unassigned	Food Plant	Cuc ma 5	IgE but no biological test	141	Q39649.1	68564970	20
Culicoides nubeculosus	Farmyyard midge	Unassigned	Venom or Salivary	Culicoides antigen 5 by similarity	IgE but no biological test	263	ACM40909.1	221768795	10
Culicoides nubeculosus	Farmyyard midge	Unassigned	Venom or Salivary	Culicoides antigen 5 by similarity	IgE but no biological test	219	ACM40888.1	221768626	10
Cupressus arizonica	Arizona Cypress	Cup a 1.0101	Aero Plant	Cupressus Cup a 1/Cup s 1	IgE plus basophil+ or SPT+	346	CAB62551.1	6562326	7
Cupressus arizonica	Arizona Cypress		Aero Plant	Cupressus Cup a 1/Cup s 1	IgE plus basophil+ or SPT+	367	CAC37790.2	19069497	7
Cupressus arizonica	Arizona Cypress	Unassigned	Aero Plant	Cupressus Cup a 1/Cup s 1	IgE plus basophil+ or SPT+	347	ABK78766.1	118197955	8
Cupressus arizonica	Arizona Cypress	Unassigned	Aero Plant	Cupressus Cup a 4	IgE but no biological test	165	ACY01951.1	261865475	11
Cupressus arizonica	Arizona Cypress	Unassigned	Aero Plant	Cupressus Cup s 3	IgE but no biological test	199	CAC05258.1	9929163	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 1.0101	Aero Plant	Cupressus Cup a 1/Cup s 1	IgE plus basophil+ or SPT+	367	AAF72625.1	8101711	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 1.0102	Aero Plant	Cupressus Cup a 1/Cup s 1	IgE plus basophil+ or SPT+	367	AAF72626.1	8101713	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 1.0103	Aero Plant	Cupressus Cup a 1/Cup s 1	IgE plus basophil+ or SPT+	367	AAF72627.1	8101715	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 1.0104	Aero Plant	Cupressus Cup a 1/Cup s 1	IgE plus basophil+ or SPT+	367	AAF72628.1	8101717	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 1.0105	Aero Plant	Cupressus Cup a 1/Cup s 1	IgE plus basophil+ or SPT+	367	AAF72629.1	8101719	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 3.0102	Aero Plant	Cupressus Cup s 3	IgE but no biological test	225	AAR21074.1	38456228	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 3.0101	Aero Plant	Cupressus Cup s 3	IgE but no biological test	225	AAR21073.1	38456226	11
Cynodon dactylon	Bermuda grass		Aero Plant	Cynodon Cyn d 1	IgE plus basophil+ or SPT+	25	AAB28566.1	451274	7
Cynodon dactylon	Bermuda grass		Aero Plant	Cynodon Cyn d 1	IgE plus basophil+ or SPT+	38	AAB28567.1	451275	7
Cynodon dactylon	Bermuda grass		Aero Plant	Cynodon Cyn d 1	IgE plus basophil+ or SPT+	34	AAB32317.1	691726	7
Cynodon dactylon	Bermuda grass	Cyn d 1.0204	Aero Plant	Cynodon Cyn d 1	IgE plus basophil+ or SPT+	244	AAF80379.2	10314021	7
Cynodon dactylon	Bermuda grass	Cyn d 1.0201	Aero Plant	Cynodon Cyn d 1	IgE plus basophil+ or SPT+	244	AAK96255.1	15384338	7
Cynodon dactylon	Bermuda grass	Cyn d 1.0202	Aero Plant	Cynodon Cyn d 1	IgE plus basophil+ or SPT+	262	AAL14077.1	16076693	7
Cynodon dactylon	Bermuda grass		Aero Plant	Cynodon Cyn d 1	IgE plus basophil+ or SPT+	262	AAL14078.1	16076695	7
Cynodon dactylon	Bermuda grass	Cyn d 1.0203	Aero Plant	Cynodon Cyn d 1	IgE plus basophil+ or SPT+	262	AAL14079.1	16076697	7
Cynodon dactylon	Bermuda grass	Cyn d 1.0101	Aero Plant	Cynodon Cyn d 1	IgE plus basophil+ or SPT+	246	AAB50734.2	7687901	10
Cynodon dactylon	Bermuda grass	Cyn d 12.0101	Aero Plant	Cynodon Cyn d 12	IgE but no biological test	131	CAA69670.1	2154730	7
Cynodon dactylon	Bermuda grass	Unassigned	Aero Plant	Cynodon Cyn d 7	IgE but no biological test	71	CAA01909.1	1247373	7
Cynodon dactylon	Bermuda grass	Unassigned	Aero Plant	Cynodon Cyn d 7	IgE but no biological test	73	CAA01910.1	1247375	7
Cynodon dactylon	Bermuda grass	Cyn d 7.0101	Aero Plant	Cynodon Cyn d 7	IgE but no biological test	82	CAA62634.1	1871507	7
Cynodon dactylon	Bermuda grass	Unassigned	Aero Plant	Cynodon Group 4 like-allergen FAD-linked oxidoredu	IgE but no biological test	522	AAS02108.1	41393750	7

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Cyprinus carpio	Carp	Cyp c 1.0101	Food Animal	Cyprinus Cyp c 1 Parvalbumin	IgE plus basophil+ or SPT+	109	CAC83658.1	17977825	7
Cyprinus carpio	Carp	Cyp c 1.0201	Food Animal	Cyprinus Cyp c 1 Parvalbumin	IgE plus basophil+ or SPT+	109	CAC83659.1	17977827	7
Dactylis glomerata	Orchard grass		Aero Plant	Dactylis Dac g 1	IgE plus basophil+ or SPT+	264	CAD20406.1	18093991	7
Dactylis glomerata	Orchard grass	Dac g 1.0101	Aero Plant	Dactylis Dac g 1	IgE plus basophil+ or SPT+	240	AAP96759.1	33149333	7
Dactylis glomerata	Orchard grass	Dac g 2.0101	Aero Plant	Dactylis Dac g 2	IgE but no biological test	196	2103117A	1093120	7
Dactylis glomerata	Orchard grass		Aero Plant	Dactylis Dac g 2	IgE but no biological test	122	CAA10345.1	4007040	7
Dactylis glomerata	Orchard grass	Dac g 3.0101	Aero Plant	Dactylis Dac g 3	IgE but no biological test	96	AAB42200.1	1825459	7
Dactylis glomerata	Orchard grass	Dac g 4.0101	Aero Plant	Dactylis Dac g 4	IgE but no biological test	55	P82946.1	32363463	9
Dactylis glomerata	Orchard grass		Aero Plant	Dactylis Dac g 5	IgE but no biological test	290	AAK62278.1	14423124	7
Dactylis glomerata	Orchard grass		Aero Plant	Dactylis Dac g 5	IgE but no biological test	265	CAD20405.1	18093971	7
Daucus carota	Carrot	Unassigned	Food Plant	Daucus cyclophilin	IgE but no biological test	171	AEY79726.1	373939374	13
Daucus carota	Carrot	Dau c 1.0101	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	168	AAB01092.1	1335877	7
Daucus carota	Carrot	Dau c 1.0102	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	BAA13604.1	1663522	7
Daucus carota	Carrot	Dau c 1.0103	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	CAB03715.1	2154732	7
Daucus carota	Carrot	Dau c 1.0104	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	CAB03716.1	2154734	7
Daucus carota	Carrot	Dau c 1.0105	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	CAB06416.1	2154736	7
Daucus carota	Carrot	Dau c 1.0201	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	AAL76932.1	18652047	7
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	BAB88129.1	19912791	7
Daucus carota	Carrot	Dau c 1.0301	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	ADL32660.1	302379147	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	ADL32661.1	302379149	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	ADL32662.1	302379151	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	ADL32663.1	302379153	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	ADL32664.1	302379155	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	ADL32665.1	302379157	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	IgE plus basophil+ or SPT+	154	ADL32666.1	302379159	12
Daucus carota	Carrot	Dau c 4.0101	Food Plant	Daucus Dau c 4	IgE plus basophil+ or SPT+	134	AAL76933.1	18652049	7
Daucus carota	Carrot	Dau c 5.0101	Food Plant	Daucus Dau c 5 isoflavone reductase	IgE but no biological test	306	AEY79728.1	373939378	13
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 5 isoflavone reductase	IgE but no biological test	306	AEY79727.1	373939376	13
Davidiella tassiana	Fungus	Cla h 10.0101	Aero Fungi	Cladosporium / Davidiella Cla h 10	IgE but no biological test	496	CAA55072.2	76666769	7
Davidiella tassiana	Fungus	Cla h 5.0101	Aero Fungi	Cladosporium / Davidiella Cla h 5	IgE but no biological test	111	CAA55067.2	5777795	10
Davidiella tassiana	Fungus	Cla h 6.0101	Aero Fungi	Cladosporium / Davidiella Cla h 6	IgE but no biological test	440	CAA55070.1	467660	7
Davidiella tassiana	Fungus		Aero Fungi	Cladosporium / Davidiella Cla h 6	IgE but no biological test	440	P42040.2	6015094	7
Davidiella tassiana	Fungus	Cla h 7.0101	Aero Fungi	Cladosporium / Davidiella Cla h 7	IgE but no biological test	204	CAA55068.1	467629	10
Davidiella tassiana	Fungus	Cla h 8.0101	Aero Fungi	Cladosporium / Davidiella Cla h 8	IgE plus basophil+ or SPT+	267	AAO91801.1	37780015	8
Davidiella tassiana	Fungus	Cla h 9.0101	Aero Fungi	Cladosporium / Davidiella Cla h 9 vacuolar serine	IgE but no biological test	518	AAX14379.1	60116876	10
Davidiella tassiana	Fungus	Unassigned	Aero Fungi	Cladosporium / Davidiella Heat shock 70 kDa protei	IgE but no biological test	643	P40918.1	729764	7
Davidiella tassiana	Fungus	Unassigned	Aero Fungi	Cladosporium / Davidiella Hydrophobin	IgE plus basophil+ or SPT+	105	CAD42710.1	22796153	7
Davidiella tassiana	Fungus	Unassigned	Aero Fungi	Cladosporium / Davidiella putative hydrolase	IgE but no biological test	274	ABA42918.1	76446100	10
Davidiella tassiana	Fungus	Unassigned	Aero Fungi	Cladosporium / Davidiella Putative nuclear transpo	IgE plus basophil+ or SPT+	125	CAD38166.1	21748151	7
Davidiella tassiana	Fungus	Unassigned	Aero Fungi	Cladosporium Davidiella TCTP	IgE but no biological test	169	A1KXP4.1	1679357707	20
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Der f 21	IgE but no biological test	136	ABO84963.1	140089314	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Der f 21	IgE but no biological test	136	ABO84964.1	140089316	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Der f 21	IgE but no biological test	136	ABO84966.1	140089320	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Der f 21	IgE but no biological test	136	ABO84967.1	140089322	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Der f 21	IgE but no biological test	136	ABO84968.1	140089324	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Der f 21	IgE but no biological test	136	ABO84969.1	140089326	9
Dermatophagoides farinae	House dust mite	Der f 21.0101	Aero Mite	Der f 21	IgE but no biological test	136	AHC94806.1	567768173	15
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Der f 21	IgE but no biological test	118	5YNX_A	1595430102	20
Dermatophagoides farinae	House dust mite	Der f 30.0101	Aero Mite	Der f 30	IgE plus basophil+ or SPT+	171	AGC56219.1	442565878	14
Dermatophagoides farinae	House dust mite	Der f 32.0101	Aero Mite	Der f 32	IgE but no biological test	296	AIO08849.1	685432790	15
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Der f 36 from Proteome	IgE but no biological test	229	ATI08931.1	1250175279	18

Species	Common	IUISÂ Allergen	Type	Group	Allergenicity	Length	Accession	GI#	1stÂ Version
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Der f alpha actinin	IgE plus basophil+ or SPT+	885	L7UZ85.1	1160577980	18
Dermatophagoides farinae	House dust mite	Der f 13.0101	Aero Mite	Dermatophagoides Der f 13	IgE plus basophil+ or SPT+	131	AAP35078.1	37958167	11
Dermatophagoides farinae	House dust mite	Der f 15.0101	Aero Mite	Dermatophagoides Der f 15 Der p 15	IgE but no biological test	555	AAD52672.1	5815436	7
Dermatophagoides farinae	House dust mite	Der f 16.0101	Aero Mite	Dermatophagoides Der f 16	IgE but no biological test	480	AAM64112.1	21591547	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 20 / Der p 20	IgE but no biological test	356	AAP57094.1	37785884	8
Dermatophagoides farinae	House dust mite	Der f 20.0201	Aero Mite	Dermatophagoides Der f 20 / Der p 20	IgE but no biological test	356	ABU97470.1	156938897	9
Dermatophagoides farinae	House dust mite	Der f 20.0101	Aero Mite	Dermatophagoides Der f 20 / Der p 20	IgE but no biological test	356	AIO08850.1	685432792	15
Dermatophagoides farinae	House dust mite	Der f 22.0101	Aero Mite	Dermatophagoides Der f 22	IgE but no biological test	155	ABG35122.1	109629736	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 23 like	IgE plus basophil+ or SPT+	174	ALU66112.1	970836006	17
Dermatophagoides farinae	House dust mite	Der f 24.0101	Aero Mite	Dermatophagoides Der f 24 and Der p 24 Ubiquinol	IgE but no biological test	118	AGI78542.1	477541860	14
Dermatophagoides farinae	House dust mite	Der f 25.0101	Aero Mite	Dermatophagoides Der f 25	IgE but no biological test	247	AGC56216.1	442565872	14
Dermatophagoides farinae	House dust mite	Der f 25.0201	Aero Mite	Dermatophagoides Der f 25	IgE but no biological test	247	AIO08860.1	685432812	15
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 27	IgE plus basophil+ or SPT+	427	AAP35082.1	37958175	8
Dermatophagoides farinae	House dust mite	Der p 1.0102	Aero Mite	Dermatophagoides Der f 27	IgE plus basophil+ or SPT+	427	AIO08851.1	685432794	15
Dermatophagoides farinae	House dust mite	Der f 28.0101	Aero Mite	Dermatophagoides Der f 28	IgE but no biological test	659	AGC56218.1	442565876	14
Dermatophagoides farinae	House dust mite	Der f 28.0201	Aero Mite	Dermatophagoides Der f 28	IgE but no biological test	654	AIO08848.1	685432788	15
Dermatophagoides farinae	House dust mite	Der f 29.0101	Aero Mite	Dermatophagoides Der f 29	IgE plus basophil+ or SPT+	164	AAP35065.1	37958141	8
Dermatophagoides farinae	House dust mite	Der f 31.0101	Aero Mite	Dermatophagoides Der f 31	IgE plus basophil+ or SPT+	148	AIO08870.1	685432832	15
Dermatophagoides farinae	House dust mite	Der f 33.0101	Aero Mite	Dermatophagoides Der f 33	IgE but no biological test	461	AIO08861.1	685432814	15
Dermatophagoides farinae	House dust mite	Der f 35.0101	Aero Mite	Dermatophagoides Der f 35	IgE but no biological test	143	BAX34757.1	1187443130	18
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 5-like	IgE but no biological test	132	BAE45865.1	76880188	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 5-like	IgE but no biological test	132	AAP35068.1	37958147	8
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 5-like	IgE but no biological test	132	ABO84970.1	140089345	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 5-like	IgE but no biological test	132	ABO84971.1	140089347	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 5-like	IgE but no biological test	132	ABO84972.1	140089349	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 5-like	IgE but no biological test	132	ABO84973.1	140089351	9
Dermatophagoides farinae	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	321	P16311.2	730035	7
Dermatophagoides farinae	House dust mite	Der f 1.0101	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	321	BAC53948.1	27530349	7
Dermatophagoides farinae	House dust mite	Der f 1.0102	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	276	ABA39436.1	76097507	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	321	ABU49605.1	156106765	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	263	AAP35075.1	37958161	12
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	305	AFJ68066.1	387178006	13
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	303	ADM52184.1	305387429	15
Dermatophagoides farinae	House dust mite	Der f 1.0108	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	321	ABL84749.1	119633260	15
Dermatophagoides farinae	House dust mite	Der f 1.0109	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	321	ABL84750.1	119633262	15
Dermatophagoides farinae	House dust mite	Der f 1.0110	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	321	ABL84751.1	119633264	15
Dermatophagoides farinae	House dust mite	Der f 10.0101	Aero Mite	Dermatophagoides Der p 10 / Der f 10	IgE plus basophil+ or SPT+	299	BAA04557.1	1359436	7
Dermatophagoides farinae	House dust mite	Der f 11.0101	Aero Mite	Dermatophagoides Der p 11 / Der f 11	IgE plus basophil+ or SPT+	692	AAK39511.1	13785807	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 11 / Der f 11	IgE plus basophil+ or SPT+	876	AIO08864.1	685432820	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 14 / Der f 14	IgE but no biological test	341	P39673.1	729979	7
Dermatophagoides farinae	House dust mite	Der f 14.0101	Aero Mite	Dermatophagoides Der p 14 / Der f 14	IgE but no biological test	349	BAA04558.1	1545803	7
Dermatophagoides farinae	House dust mite	Der f 2.0102	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	146	BAA01240.1	217306	7
Dermatophagoides farinae	House dust mite	Der f 2.0103	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	138	BAA01241.1	217308	7
Dermatophagoides farinae	House dust mite	Der f 2.0105	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	AAL47677.1	17978844	7
Dermatophagoides farinae	House dust mite	Der f 2.0108	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	146	CAI05850.1	55859470	7
Dermatophagoides farinae	House dust mite	Der f 2.0107	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	146	CAI05849.1	55859468	7
Dermatophagoides farinae	House dust mite	Der f 2.0106	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	146	CAI05848.1	55859466	7
Dermatophagoides farinae	House dust mite	Der f 2.0109	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	ABA39438.1	76097511	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	146	BAD74060.2	256631558	11
Dermatophagoides farinae	House dust mite	Der f 2.0112	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	140	AAP35073.1	37958157	12
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	AFJ68072.1	387178018	13
Dermatophagoides farinae	House dust mite	Der f 2.0101	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	138	BAA01239.1	217304	15

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Dermatophagoides farinae	House dust mite	Der f 2.0116	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	146	ABN14313.1	124696217	15
Dermatophagoides farinae	House dust mite		Aero Mite	Dermatophagoides Der p 3 / Der f 3	IgE but no biological test	232	AAA99805.1	1314736	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 3 / Der f 3	IgE but no biological test	259	ABY28115.1	163638970	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 3 / Der f 3	IgE but no biological test	259	ACK76291.1	218203816	10
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 3 / Der f 3	IgE but no biological test	259	ACK76292.1	218203818	10
Dermatophagoides farinae	House dust mite	Der f 3.0101	Aero Mite	Dermatophagoides Der p 3 / Der f 3	IgE but no biological test	259	BAA09920.1	1311457	15
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 6 / Der f 6	IgE but no biological test	20	AAB27594.1	404371	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 6 / Der f 6	IgE but no biological test	279	ACK76296.1	218203826	10
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 6 / Der f 6	IgE but no biological test	279	ACK76297.1	218203828	10
Dermatophagoides farinae	House dust mite	Der f 6.0101	Aero Mite	Dermatophagoides Der p 6 / Der f 6	IgE but no biological test	279	AAF28423.1	6808530	11
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 7 / Der f 7	IgE plus basophil+ or SPT+	213	AAP35077.1	37958165	8
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 7 / Der f 7	IgE plus basophil+ or SPT+	213	ACK76299.1	218203832	10
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 7 / Der f 7	IgE plus basophil+ or SPT+	213	AIO08853.1	685432798	16
Dermatophagoides farinae	House dust mite	Der f 18.0101	Aero Mite	Dermatophagoides farinae Der f 18 Der p 18	IgE but no biological test	462	AAM19082.1	27550039	7
Dermatophagoides farinae	House dust mite	Der f 34.0101	Aero Mite	Dermatophagoides farinae Der f 34	IgE but no biological test	128	BAV90601.1	1098871171	17
Dermatophagoides farinae	House dust mite	Der f 4.0101	Aero Mite	Dermatophagoides farinae Der f 4	IgE but no biological test	525	AHX03180.1	612487835	15
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 4	IgE but no biological test	525	AIP86946.1	685848330	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 4	IgE but no biological test	525	AIP86945.1	685848328	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 4	IgE but no biological test	525	AIP86944.1	685848326	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 4	IgE but no biological test	525	AIP86943.1	685848324	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 4	IgE but no biological test	525	AIP86942.1	685848322	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 4	IgE but no biological test	525	AIP86941.1	685848320	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 4	IgE but no biological test	525	AIP86940.1	685848318	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 4	IgE but no biological test	525	AIP86939.1	685848316	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 4	IgE but no biological test	525	AJF93907.1	751425403	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Pseudo-Der f 8	IgE but no biological test	219	AAP35080.1	37958171	12
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Pseudo-Der f 8	IgE but no biological test	221	AIO08867.1	685432826	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Profilin	IgE but no biological test	130	AIO08866.1	685432824	16
Dermatophagoides microceras	House dust mite	Der m 1.0101	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	30	P16312.1	127205	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Der f 30	IgE plus basophil+ or SPT+	180	AAG02250.1	15072346	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Der p 26	IgE but no biological test	121	QAT18638.1	1561006359	20
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Der p 28	IgE but no biological test	655	QAT18639.1	1561006361	20
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Der p 32	IgE but no biological test	391	QAT18643.1	1561006369	20
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Der p 33	IgE but no biological test	396	QAT18644.1	1561006371	20
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Der p 36	IgE but no biological test	227	ATI08932.1	1250175281	18
Dermatophagoides pteronyssinus	House dust mite	Der p 15.0101	Aero Mite	Dermatophagoides Der f 15 Der p 15	IgE but no biological test	532	AAY84565.1	67975089	7
Dermatophagoides pteronyssinus	House dust mite	Der p 15.0102	Aero Mite	Dermatophagoides Der f 15 Der p 15	IgE but no biological test	558	AAY84564.2	78128018	7
Dermatophagoides pteronyssinus	House dust mite	Der p 20.0101	Aero Mite	Dermatophagoides Der f 20 / Der p 20	IgE but no biological test	356	ACD50950.1	188485735	10
Dermatophagoides pteronyssinus	House dust mite	Der p 24.0101	Aero Mite	Dermatophagoides Der f 24 and Der p 24 Ubiquinol	IgE but no biological test	118	ALA65345.1	922664427	16
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 33	IgE but no biological test	460	AUX14773.1	1338184716	19
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 35	IgE but no biological test	143	ATI08948.1	1250329008	19
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	CAD38361.1	21725560	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	CAD38362.1	21725562	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	CAD38363.1	21725564	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	CAD38364.1	21725566	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	CAD38365.1	21725568	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	CAD38366.1	21725570	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	CAD38367.1	21725572	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	CAD38368.1	21725574	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	CAD38369.1	21725576	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	CAD38370.1	21725578	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	CAD38371.1	21725580	7

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Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	216	AAX47076.1	61608445	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	2AS8_B	83754033	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	223	ABV66255.1	157696052	9
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	222	3F5V_B	223365887	10
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	320	ACG58378.1	195933901	10
Dermatophagoides pteronyssinus	House dust mite	Der p 1.0124	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	302	CAQ68250.1	256095986	11
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	96	AAA28296.1	387592	11
Dermatophagoides pteronyssinus	House dust mite	Der p 1.0101	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	320	AAB60215.1	511953	12
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	304	AFJ68065.1	387178004	13
Dermatophagoides pteronyssinus	House dust mite	Der p 1.0113	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	IgE plus basophil+ or SPT+	302	ABA39435.1	76097505	15
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 10 / Der f 10	IgE plus basophil+ or SPT+	284	AAB69424.1	2353266	7
Dermatophagoides pteronyssinus	House dust mite	Der p 10.0101	Aero Mite	Dermatophagoides Der p 10 / Der f 10	IgE plus basophil+ or SPT+	284	CAA75141.1	2440053	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 10 / Der f 10	IgE plus basophil+ or SPT+	281	ABB52642.1	80553470	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 10 / Der f 10	IgE plus basophil+ or SPT+	284	ACI32128.1	208970286	10
Dermatophagoides pteronyssinus	House dust mite	Der p 11.0101	Aero Mite	Dermatophagoides Der p 11 / Der f 11	IgE plus basophil+ or SPT+	875	AAO73464.1	37778944	7
Dermatophagoides pteronyssinus	House dust mite	Der p 13.0101	Aero Mite	Dermatophagoides Der p 13	IgE but no biological test	131	ADK92390.1	302035350	12
Dermatophagoides pteronyssinus	House dust mite	Der p 14.0101	Aero Mite	Dermatophagoides Der p 14 / Der f 14	IgE but no biological test	1662	AAM21322.1	20385544	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	1KTJ_A	21465915	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAD38372.1	21725582	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAD38373.1	21725584	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAD38374.1	21725586	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAD38375.1	21725588	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAD38376.1	21725590	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAD38377.1	21725592	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAD38378.1	21725594	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAD38379.1	21725596	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAD38381.1	21725600	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAD38382.1	21725602	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAD38383.1	21725604	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	ABA39437.1	76097509	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2.0114	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	146	CAK22338.1	99644635	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	130	ABG76196.1	110560872	9
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	1A9V_A	157829757	9
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	145	ABY53034.1	164415595	9
Dermatophagoides pteronyssinus	House dust mite	Der p 2.0101	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	145	AAF86462.1	9280543	10
Dermatophagoides pteronyssinus	House dust mite	Der p 2.0110	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	CAQ68249.1	256095984	11
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	AFJ68070.1	387178014	13
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	129	AFJ68067.1	387178008	13
Dermatophagoides pteronyssinus	House dust mite	Der p 21.0101	Aero Mite	Dermatophagoides Der p 21	IgE plus basophil+ or SPT+	140	ABC73706.1	85687540	7
Dermatophagoides pteronyssinus	House dust mite	Der p 23.0101	Aero Mite	Dermatophagoides Der p 23 Peritrophin-like protein	IgE plus basophil+ or SPT+	90	ACB46292.1	171466145	14
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 23 Peritrophin-like protein	IgE plus basophil+ or SPT+	50	4ZCE_A	955264737	17
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 23 Peritrophin-like protein	IgE plus basophil+ or SPT+	99	ALA22869.1	920684621	17
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 23 Peritrophin-like protein	IgE plus basophil+ or SPT+	98	ALA22868.1	920684619	17
Dermatophagoides pteronyssinus	House dust mite	Der p 3.0101	Aero Mite	Dermatophagoides Der p 3 / Der f 3	IgE but no biological test	261	AAA19973.1	511476	7
Dermatophagoides pteronyssinus	House dust mite	Der p 4.0101	Aero Mite	Dermatophagoides Der p 4	IgE but no biological test	496	AAD38942.1	5059162	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 4	IgE but no biological test	19	P49274.1	1351935	7
Dermatophagoides pteronyssinus	House dust mite	Der p 5.0102	Aero Mite	Dermatophagoides Der p 5	IgE plus basophil+ or SPT+	132	AAB32842.1	913285	7
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 5	IgE plus basophil+ or SPT+	132	CAD69036.1	28798085	7
Dermatophagoides pteronyssinus	House dust mite	Der p 5.0101	Aero Mite	Dermatophagoides Der p 5	IgE plus basophil+ or SPT+	148	CAA35692.1	9072	15
Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 6 / Der f 6	IgE but no biological test	20	P49277.1	1352239	7
Dermatophagoides pteronyssinus	House dust mite	Der p 7.0101	Aero Mite	Dermatophagoides Der p 7 / Der f 7	IgE plus basophil+ or SPT+	215	AAA80264.1	1045602	7

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Dermatophagoides pteronyssinus	House dust mite		Aero Mite	Dermatophagoides Der p 7 / Der f 7	IgE plus basophil+ or SPT+	215	CAC09234.1	10189811	7
Dermatophagoides pteronyssinus	House dust mite	Der f 7.0101	Aero Mite	Dermatophagoides Der p 7 / Der f 7	IgE plus basophil+ or SPT+	213	AAB35977.1	1311689	10
Dermatophagoides pteronyssinus	House dust mite	Der p 8.0101	Aero Mite	Dermatophagoides Der p 8	IgE but no biological test	219	AAB32224.1	807138	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 8	IgE but no biological test	219	AAX37326.1	60920878	7
Dermatophagoides pteronyssinus	House dust mite	Der p 18.0101	Aero Mite	Dermatophagoides farinae Der f 18 Der p 18	IgE but no biological test	462	AAY84563.1	67975085	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Profilin	IgE but no biological test	130	AUX14776.1	1338184722	19
Dermatophagoides siboney	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	IgE plus basophil+ or SPT+	146	ABC96702.1	86450747	7
Dolichovespula arenaria	Yellow jacket		Venom or Salivary	Dolichovespula Venom allergen 5	IgE plus basophil+ or SPT+	203	AAA28303.1	156719	11
Dolichovespula maculata	Whiteface hornet	Dol m 1.02	Venom or Salivary	Dolichovespula Dol m 1 Phospholipase A1B	IgE plus basophil+ or SPT+	303	P53357.1	1709542	7
Dolichovespula maculata	Whiteface hornet	Dol m 1.0101	Venom or Salivary	Dolichovespula Dol m 1 Phospholipase A1B	IgE plus basophil+ or SPT+	317	CAA47341.1	288917	8
Dolichovespula maculata	Whiteface hornet	Dol m 2.0101	Venom or Salivary	Dolichovespula Dol m 2 Hyaluronidase	IgE plus basophil+ or SPT+	331	AAA68279.1	511604	11
Dolichovespula maculata	Whiteface hornet	Dol m 5.0101	Venom or Salivary	Dolichovespula Venom allergen 5	IgE plus basophil+ or SPT+	227	AAA28301.1	156715	11
Dolichovespula maculata	Whiteface hornet	Dol m 5.02	Venom or Salivary	Dolichovespula Venom allergen 5	IgE plus basophil+ or SPT+	212	AAA28302.1	552080	11
Epicoccum nigrum	Fungus	Epi p 1.0101	Aero Fungi	Epicoccum Epi p 1	IgE plus basophil+ or SPT+	18	P83340.1	24636820	9
Equus asinus		Equ a 6	Food Animal	Equus asinus / caballas Equ a 6 Equ c 6 lysozyme	IgE plus basophil+ or SPT+	148	XP_014705584.1	958727973	18
Equus caballus	Horse	Equ c 6	Food Animal	Equus asinus / caballas Equ a 6 Equ c 6 lysozyme	IgE plus basophil+ or SPT+	129	P11376.1	126614	18
Equus caballus	Horse	Equ c 1.0101	Aero Animal	Equus Equ c 1	IgE but no biological test	187	AAC48691.1	1575778	11
Equus caballus	Horse	Equ c 2.0101	Aero Animal	Equus Equ c 2	IgE but no biological test	29	P81216.1	3121755	7
Equus caballus	Horse	Equ c 2.0102	Aero Animal	Equus Equ c 2	IgE but no biological test	19	P81217.1	3121756	7
Equus caballus	Horse	Unassigned	Aero Animal	Equus Equ c 2	IgE but no biological test	174	AYL64456.1	1492010380	20
Equus caballus	Horse	Equ c 3.0101	Aero Animal	Equus Equ c 3	IgE plus basophil+ or SPT+	607	CAA52194.1	399672	7
Equus caballus	Horse	Equ c 4.0101	Aero Animal	Equus Equ c 4 and Equ c 5	IgE but no biological test	228	AAM09530.3	126514234	8
Erimacrus isenbeckii	Horsehair crab	Unassigned	Food Animal	Erimacrus tropomyosin	IgE but no biological test	284	BAF47268.1	125995169	8
Erimacrus isenbeckii	Horsehair crab	Unassigned	Food Animal	Erimacrus tropomyosin	IgE but no biological test	284	BAF47269.1	125995171	8
Eriocheir sinensis	Chinese mitten crab	Eri s 2.0101	Food Animal	Eriocheir sinensis Eri s 2	IgE plus basophil+ or SPT+	252	AAO73305.1	37778438	16
Eriocheir sinensis	Chinese mitten crab	Unassigned	Food Animal	Eriocheir tropomyosin	IgE but no biological test	284	ABO71783.1	134305330	8
Euphausia pacifica	North Pacific Krill	Unassigned	Food Animal	Euphausia	IgE plus basophil+ or SPT+	284	BAF76431.1	156712754	9
Euphausia superba	Krill	Unassigned	Food Animal	Euphausia	IgE plus basophil+ or SPT+	284	BAF76430.1	156712752	9
Euroglyphus maynei	House dust mite	Eur m 1.0101	Aero Mite	Euroglyphus Eur m 1	IgE but no biological test	321	AAC82351.1	3941388	7
Euroglyphus maynei	House dust mite	Unassigned	Aero Mite	Euroglyphus Eur m 1	IgE but no biological test	327	AAC82352.1	3941390	7
Euroglyphus maynei	House dust mite	Eur m 2.0102	Aero Mite	Euroglyphus Eur m 2	IgE but no biological test	135	AAC82350.1	3941386	7
Euroglyphus maynei	House dust mite	Eur m 2.0101	Aero Mite	Euroglyphus Eur m 2	IgE but no biological test	145	AAC82349.1	3941384	11
Evynnis japonica	Crimson seabream	Unassigned	Food Animal	Evynnis parvalbumin	IgE but no biological test	109	BAK09233.1	327342663	12
Evynnis japonica	Crimson seabream	Unassigned	Food Animal	Evynnis parvalbumin	IgE but no biological test	108	BAK09232.1	327342661	12
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum BW 8 kDa protein	IgE but no biological test	133	BAB79444.1	17907758	7
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum esculentum 13S globulins IgE binding	IgE but no biological test	453	BAO50872.1	584592120	15
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum esculentum 13S globulins IgE binding	IgE but no biological test	453	BAO50870.1	584592116	15
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum Fag e 2 Fag t 2	IgE but no biological test	127	AAX57578.1	61970231	7
Fagopyrum esculentum	Buckwheat	Fag e 2.0101	Food Plant	Fagopyrum Fag e 2 Fag t 2	IgE but no biological test	149	ABC18306.1	83416591	7
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum Legumin-like protein	IgE but no biological test	565	O23878.1	29839254	9
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum Legumin-like protein	IgE but no biological test	504	O23880.1	29839255	9
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum Legumin-like protein	IgE but no biological test	538	Q9XFM4.1	29839419	9
Fagopyrum esculentum	Buckwheat	Fag e 3.0101	Food Plant	Fagopyrum vicilin-like Fag e 3	IgE but no biological test	136	ABQ10638.1	146217148	9
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum vicilin-like Fag e 3	IgE but no biological test	136	BAT21117.1	939106201	17
Fagopyrum tataricum	Buckwheat	Unassigned	Food Plant	Fagopyrum BW 8 kDa protein	IgE but no biological test	133	ABO93594.1	144228127	8
Fagopyrum tataricum	Buckwheat	Fag t 2.0101	Food Plant	Fagopyrum Fag e 2 Fag t 2	IgE but no biological test	149	ADW27428.1	320445237	12
Fagopyrum tataricum	Buckwheat	Unassigned	Food Plant	Fagopyrum Legumin-like protein	IgE but no biological test	515	ABI32184.1	113200131	9
Fagus sylvatica	European Beech	Unassigned	Aero Plant	Fagus Fag s 1	IgE plus basophil+ or SPT+	160	ACJ23865.1	212291472	10
Fagus sylvatica	European Beech	Fag s 1.0101	Aero Plant	Fagus Fag s 1	IgE plus basophil+ or SPT+	160	ACJ23864.1	212291470	10
Fagus sylvatica	European Beech	Unassigned	Aero Plant	Fagus Fag s 1	IgE plus basophil+ or SPT+	160	ACJ23866.1	212291474	10
Farfantepenaeus aztecus	Brown shrimp	Pen a 1.0101	Food Animal	Farfantepenaeus Pen a 1	IgE plus basophil+ or SPT+	284	AAZ76743.1	73532979	7

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Felis catus	Cat		Aero Animal	Felis Fel d 1 Chain 1	IgE plus basophil+ or SPT+	88	CAA44343.1	1364212	7
Felis catus	Cat		Aero Animal	Felis Fel d 1 Chain 1	IgE plus basophil+ or SPT+	92	CAA44344.1	1364213	7
Felis catus	Cat		Aero Animal	Felis Fel d 1 Chain 1	IgE plus basophil+ or SPT+	92	P30438.2	1169665	7
Felis catus	Cat	Fel d 1.0101	Aero Animal	Felis Fel d 1 Chain 1	IgE plus basophil+ or SPT+	92	AAC37318.1	163825	7
Felis catus	Cat	Unassigned	Aero Animal	Felis Fel d 1 Chain 1	IgE plus basophil+ or SPT+	88	NP_001041618.1	114326420	8
Felis catus	Cat	Unassigned	Aero Animal	Felis Fel d 1 chain 2	IgE plus basophil+ or SPT+	107	CAA44345.1	395407	8
Felis catus	Cat	Fel d 1.0101	Aero Animal	Felis Fel d 1 chain 2	IgE plus basophil+ or SPT+	109	AAC41616.1	163823	12
Felis catus	Cat	Fel d 2.0101	Aero Animal	Felis Fel d 2	IgE but no biological test	608	CAA59279.1	886485	7
Felis catus	Cat	Fel d 3.0101	Aero Animal	Felis Fel d 3	IgE but no biological test	98	AAL49391.1	17939981	7
Felis catus	Cat	Fel d 4.0101	Aero Animal	Felis Fel d 4	IgE but no biological test	186	AAS77253.1	45775300	7
Felis catus	Cat	Fel d 7.0101	Aero Animal	Felis Fel d 7	IgE but no biological test	180	ADK56160.1	301072397	12
Felis catus	Cat	Fel d 8.0101	Aero Animal	Felis Fel d 8 latherin-like	IgE but no biological test	228	ADM15668.1	303387468	12
Fenneropenaeus chinensis	Chinese white shrimp	Unassigned	Food Animal	Fenneropenaeus Arginine kinase	IgE but no biological test	53	AAS98889.1	46486948	9
Fenneropenaeus chinensis	Chinese white shrimp	Unassigned	Food Animal	Fenneropenaeus Arginine kinase	IgE but no biological test	53	AAS98890.1	46486951	9
Fenneropenaeus chinensis	Chinese white shrimp	Unassigned	Food Animal	Penaeus chinensis allergen	IgE plus basophil+ or SPT+	365	QBO59887.1	1595306268	20
Fenneropenaeus chinensis	Chinese white shrimp	Unassigned	Food Animal	Penaeus chinensis arginine kinase	IgE plus basophil+ or SPT+	356	AAV83993.1	56182374	20
Fenneropenaeus merguiensis	Banana Prawn	Unassigned	Food Animal	Fenneropenaeus hemocyanin banana shrimp	IgE but no biological test	661	AGT20779.1	530340505	15
Fenneropenaeus merguiensis	Banana Prawn	Unassigned	Food Animal	Fenneropenaeus enolase	IgE but no biological test	117	AEM89226.1	344049993	15
Forcipomyia taiwana	biting midges	For t 1.0101	Venom or Salivary	Forcipomyia For t 1	IgE but no biological test	118	ACD65080.1	188572341	10
Forcipomyia taiwana	biting midges	For t 1.0101	Venom or Salivary	Forcipomyia For t 2	IgE but no biological test	325	ACD65081.1	188572343	10
Fragaria x ananassa	Strawberry		Food Plant	Fragaria Fra a 1	IgE plus basophil+ or SPT+	160	CAJ85646.1	90185692	7
Fragaria x ananassa	Strawberry		Food Plant	Fragaria Fra a 1	IgE plus basophil+ or SPT+	159	CAJ85644.1	90185688	7
Fragaria x ananassa	Strawberry	Fra a 1	Food Plant	Fragaria Fra a 1	IgE plus basophil+ or SPT+	160	CAJ85642.1	90185684	7
Fragaria x ananassa	Strawberry		Food Plant	Fragaria Fra a 1	IgE plus basophil+ or SPT+	160	CAJ85641.1	90185682	7
Fragaria x ananassa	Strawberry	Fra a 1.0102	Food Plant	Fragaria Fra a 1	IgE plus basophil+ or SPT+	160	ABD39049.1	88082485	7
Fragaria x ananassa	Strawberry	Unassigned	Food Plant	Fragaria Fra a 1	IgE plus basophil+ or SPT+	160	ACX47057.1	260600660	11
Fragaria x ananassa	Strawberry	Unassigned	Food Plant	Fragaria Fra a 1	IgE plus basophil+ or SPT+	159	ACX47058.1	260600662	11
Fragaria x ananassa	Strawberry	Unassigned	Food Plant	Fragaria Fra a 1	IgE plus basophil+ or SPT+	160	BBE27860.1	1394298081	19
Fragaria x ananassa	Strawberry	Fra a 3.0101	Food Plant	Fragaria Fra a 3	IgE plus basophil+ or SPT+	117	CAC86258.1	18477856	15
Fragaria x ananassa	Strawberry	Fra a 3.0102	Food Plant	Fragaria Fra a 3	IgE plus basophil+ or SPT+	117	AAY83342.1	67937767	15
Fragaria x ananassa	Strawberry	Fra a 3.0201	Food Plant	Fragaria Fra a 3	IgE plus basophil+ or SPT+	117	AAY83341.1	67937765	15
Fragaria x ananassa	Strawberry	Fra a 3.0202	Food Plant	Fragaria Fra a 3	IgE plus basophil+ or SPT+	117	AAY83345.1	67937773	15
Fraxinus excelsior	European ash	Unassigned	Aero Plant	Fraxinus excelsior polcalcinnot WHO IUIS	IgE but no biological test	84	AHL24661.1	589912891	15
Fraxinus excelsior	European ash	Unassigned	Aero Plant	Fraxinus excelsior profilin not in WHO IUIS	IgE but no biological test	134	AHL24660.1	589912889	15
Fraxinus excelsior	European ash	Fra e 1.0201	Aero Plant	Fraxinus Fra e 1	IgE plus basophil+ or SPT+	146	AAQ83588.1	34978692	7
Fraxinus excelsior	European ash	Fra e 1.0102	Aero Plant	Fraxinus Fra e 1	IgE plus basophil+ or SPT+	145	AAV74343.1	56122438	7
Fraxinus excelsior	European ash	Fra e 1.0101	Aero Plant	Fraxinus Fra e 1	IgE plus basophil+ or SPT+	145	AAQ08947.1	33327133	7
Fulvia mutica	Mollusc	Unassigned	Food Animal	Fulvia tropomyosin	IgE but no biological test	284	BAH10153.1	219806596	10
Fusarium culmorum	Fungus	Unassigned	Aero Fungi	Fusarium claimed Fus c 3	IgE but no biological test	450	AAN73248.1	25361513	7
Fusarium culmorum	Fungus	Fus c 1.0101	Aero Fungi	Fusarium Fus c 1	IgE plus basophil+ or SPT+	109	AAL79930.1	19879657	7
Fusarium culmorum	Fungus	Fus c 2.0101	Aero Fungi	Fusarium Fus c 2	IgE but no biological test	121	AAL79931.1	19879659	7
Fusarium proliferatum	Fungus	Fus p 4.0101	Aero Fungi	Fusarium Fus p 4	IgE but no biological test	323	AHY02994.1	619498167	15
Fusarium proliferatum	Fungus	Fus p 9	Aero Fungi	Fusarium proliferatum Fus p 9	IgE but no biological test	386	AJA79001.1	739057410	17
Gadus callarias	Baltic cod	Gad c 1.0101	Food Animal	Gadus Gad c 1 Gad m 1	IgE plus basophil+ or SPT+	113	P02622.1	131112	7
Gadus morhua	Atlantic cod	Gad m 1.0101	Food Animal	Gadus Gad c 1 Gad m 1	IgE plus basophil+ or SPT+	109	AAK63086.1	14531014	7
Gadus morhua	Atlantic cod	Gad m 1.0201	Food Animal	Gadus Gad c 1 Gad m 1	IgE plus basophil+ or SPT+	109	AAK63087.1	14531016	7
Gadus morhua	Atlantic cod	Gad m 1.0102	Food Animal	Gadus Gad c 1 Gad m 1	IgE plus basophil+ or SPT+	109	CAM56785.1	148356691	9
Gadus morhua	Atlantic cod	Gad m 1.0202	Food Animal	Gadus Gad c 1 Gad m 1	IgE plus basophil+ or SPT+	109	CAM56786.1	148356693	9
Gadus morhua	Atlantic cod	Gad m 2.0101	Food Animal	Gadus Morhua Gad m 2	IgE but no biological test	11	B3A0L6.1	576011130	15
Gadus morhua	Atlantic cod		Food Animal	Gadus morhua Gad m 3	IgE but no biological test	15	P86980.1	576011086	15
Gallus gallus	Chicken	Gal d 9.0101	Food Animal	Gallus enolase Gal d 9	IgE plus basophil+ or SPT+	434	NP_990450.1	46048765	18
Gallus gallus	Chicken	Gal d 1.0101	Food Animal	Gallus Gal d 1	IgE plus basophil+ or SPT+	210	P01005.1	124757	7

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Gallus gallus	Chicken	Unassigned	Food Animal	Gallus Gal d 1	IgE plus basophil+ or SPT+	210	ACJ04729.1	209979542	10
Gallus gallus	Chicken		Food Animal	Gallus Gal d 2	IgE plus basophil+ or SPT+	155	CAA23681.1	63052	7
Gallus gallus	Chicken	Gal d 2.0101	Food Animal	Gallus Gal d 2	IgE plus basophil+ or SPT+	386	P01012.2	129293	7
Gallus gallus	Chicken		Food Animal	Gallus Gal d 2	IgE plus basophil+ or SPT+	386	CAA23682.1	808969	7
Gallus gallus	Chicken		Food Animal	Gallus Gal d 2	IgE plus basophil+ or SPT+	385	1JTI_A	15826578	7
Gallus gallus	Chicken	Unassigned	Food Animal	Gallus Gal d 2	IgE plus basophil+ or SPT+	385	1UHG_D	34811333	7
Gallus gallus	Chicken	Gal d 3.0101	Food Animal	Gallus Gal d 3	IgE plus basophil+ or SPT+	705	CAA26040.1	757851	7
Gallus gallus	Chicken		Food Animal	Gallus Gal d 3	IgE plus basophil+ or SPT+	705	P02789.2	1351295	7
Gallus gallus	Chicken		Food Animal	Gallus Gal d 4	IgE plus basophil+ or SPT+	147	P00698.1	126608	7
Gallus gallus	Chicken		Food Animal	Gallus Gal d 4	IgE plus basophil+ or SPT+	24	AAA48944.1	212279	7
Gallus gallus	Chicken	Gal d 4.0101	Food Animal	Gallus Gal d 4	IgE plus basophil+ or SPT+	147	CAA23711.1	63581	15
Gallus gallus	Chicken	Gal d 5.0101	Food Animal	Gallus Gal d 5	IgE plus basophil+ or SPT+	615	CAA43098.1	63748	7
Gallus gallus	Chicken	Unassigned	Food Animal	Gallus Gal d 6 YGP42	IgE but no biological test	284	BAA13973.1	3	14
Gallus gallus	Chicken		Food Animal	Gallus gallus Gal d 7	IgE but no biological test	192	P02604.3	55584149	16
Gallus gallus	Chicken	Gal d 8.0101	Food Animal	Gallus parvalbumin Gal d 8	IgE plus basophil+ or SPT+	110	CAX32963.1	225877920	10
Glossina morsitans morsitans	Tsetse fly	Unassigned	Venom or Salivary	Glossina Glo m 5	IgE but no biological test	258	ADD18879.1	289740263	11
Glossina morsitans morsitans	Tsetse fly	Unassigned	Venom or Salivary	Glossina Glo m 5	IgE but no biological test	259	ADD19985.1	289742475	11
Glossina morsitans morsitans	Tsetse fly	Unassigned	Venom or Salivary	Glossina Glo m 5	IgE but no biological test	222	ADD19989.1	289742483	11
Glossina morsitans morsitans	Tsetse fly	Glo m 5.0101	Venom or Salivary	Glossina Glo m 5	IgE but no biological test	259	AAF82096.1	8927462	11
Glycine max	Soybean	Gly m 7.0101	Food Plant	Glycine 68kDa biotinylated protein	IgE plus basophil+ or SPT+	643	ACS49840.1	240254706	11
Glycine max	Soybean	Gly m 1.0101	Aero Plant	Glycine Gly m 1	IgE but no biological test	80	P24337.1	123506	12
Glycine max	Soybean	Gly m 3.0102	Food Plant	Glycine Gly m 3	IgE but no biological test	131	CAA11755.1	3021373	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 3	IgE but no biological test	131	ABU97472.1	156938901	9
Glycine max	Soybean	Gly m 3.0101	Food Plant	Glycine Gly m 3	IgE but no biological test	131	CAA11756.1	3021375	15
Glycine max	Soybean	Gly m 4.0101	Food Plant	Glycine Gly m 4	IgE plus basophil+ or SPT+	158	CAA42646.1	18744	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 5.0101 alpha subunit beta congl	IgE but no biological test	605	CAA35691.1	18536	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 5.0101 alpha subunit beta congl	IgE but no biological test	218	AAA33947.1	169927	7
Glycine max	Soybean	Gly m 5.0101	Food Plant	Glycine Gly m 5.0101 alpha subunit beta congl	IgE but no biological test	543	BAA23360.2	9967357	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 5.0201 alpha prime beta congly	IgE but no biological test	639	AAB01374.1	169929	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 5.0201 alpha prime beta congly	IgE but no biological test	621	BAB64303.1	15425631	15
Glycine max	Soybean	Gly m 5.0201	Food Plant	Glycine Gly m 5.0201 alpha prime beta congly	IgE but no biological test	559	BAA74452.2	9967361	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 5.0301 beta sub unit beta congl	IgE but no biological test	439	BAB64306.1	15425637	15
Glycine max	Soybean	Gly m 5.0301	Food Plant	Glycine Gly m 5.0301 beta sub unit beta congl	IgE but no biological test	439	P25974.1	121282	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 5.0301 beta sub unit beta congl	IgE but no biological test	439	F7J077.1	1559988709	20
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0101	IgE but no biological test	495	CAA26723.1	18615	7
Glycine max	Soybean	Gly m 6.0101	Food Plant	Glycine Gly m 6.0101	IgE but no biological test	495	AAA33966.1	169973	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0201	IgE but no biological test	485	CAA26575.1	18609	7
Glycine max	Soybean	Gly m 6.0201	Food Plant	Glycine Gly m 6.0201	IgE but no biological test	485	BAA00154.1	218265	15
Glycine max	Soybean	Gly m 6.0301	Food Plant	Glycine Gly m 6.0301	IgE but no biological test	481	CAA33217.1	18639	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0401	IgE but no biological test	562	CAA37044.1	18641	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0401	IgE but no biological test	562	CAA26478.1	732706	7
Glycine max	Soybean	Gly m 6.0401	Food Plant	Glycine Gly m 6.0401	IgE but no biological test	563	BAA74953.1	4249568	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0501	IgE but no biological test	516	AAA33964.1	169969	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0501	IgE but no biological test	240	AAA33965.1	169971	7
Glycine max	Soybean	Gly m 6.0501	Food Plant	Glycine Gly m 6.0501	IgE but no biological test	517	BAB15802.1	10566449	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 8 2s albumin	IgE but no biological test	155	AAD09630.1	4097894	14
Glycine max	Soybean	Gly m 8.0101	Food Plant	Glycine Gly m 8 2s albumin	IgE but no biological test	158	NP_001238443.1	351727517	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 28K	IgE but no biological test	373	ACD36976.1	187766751	10
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 28K	IgE but no biological test	373	ACD36975.1	187766749	10

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Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 28K	IgE but no biological test	373	ACD36974.1	187766747	10
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 28K	IgE but no biological test	455	ACD36978.1	187766755	10
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 28K	IgE but no biological test	476	BAB21619.2	410067729	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 30 kDa	IgE but no biological test	379	P22895.1	129353	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 30 kDa	IgE but no biological test	379	AAB09252.1	1199563	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 30 kDa	IgE but no biological test	379	BAA25899.1	3097321	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Major Gly 50 kDa allergen	IgE but no biological test	17	P82947.1	85681057	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	IgE but no biological test	217	CAA45777.1	18770	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	IgE but no biological test	217	CAA45778.1	18772	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	IgE but no biological test	216	AAB23464.1	256429	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	IgE but no biological test	203	AAB23482.1	256635	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	IgE but no biological test	204	AAB23483.1	256636	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	IgE but no biological test	208	CAA56343.1	510515	7
Glycine soja	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0401	IgE but no biological test	563	CAA60533.1	806556	7
Glycyphagus domesticus	Storage mite	Gly d 2.0101	Aero Mite	Glycyphagus Gly d 2	IgE but no biological test	128	CAB59976.1	6179520	7
Glycyphagus domesticus	Storage mite	Gly d 2.0201	Aero Mite	Glycyphagus Gly d 2	IgE but no biological test	125	CAB76459.1	7160811	7
Glycyphagus domesticus	Storage mite	Unassigned	Aero Mite	Glycyphagus Gly d 2	IgE but no biological test	141	AAQ54603.1	33772588	7
Haliotis discus discus	Disk abalone	Unassigned	Food Animal	Haliotis Hal m 1 tropomyosin	IgE but no biological test	284	BAH10148.1	219806586	10
Haliotis discus discus	Disk abalone	Unassigned	Food Animal	Haliotis paramyosin	IgE but no biological test	860	BAJ61596.1	318609972	12
Haliotis diversicolor	Abalone	Unassigned	Food Animal	Haliotis Hal m 1 tropomyosin	IgE but no biological test	284	AAG08987.1	9954249	7
Haliotis laevigata x Haliotis rubra		Hal l 1.0101	Food Animal	Haliotis Hal m 1 tropomyosin	IgE but no biological test	284	APG42675.1	1109557549	18
Helianthus annuus	Sunflower	Hel a 2.0101	Aero Plant	Hel a 2	IgE but no biological test	133	CAA75506.1	3581965	7
Helianthus annuus	Sunflower	Hel a 3.0101	Food Plant	Hel a 3	IgE but no biological test	116	AAP47226.1	31324341	15
Helianthus annuus	Sunflower	Unassigned	Food Plant	Hel a 6	IgE but no biological test	141	P23110.1	112745	9
Helianthus annuus	Sunflower	Hel a 6	Aero Plant	Hel a 6	IgE plus basophil+ or SPT+	394	OTF85892.1	1191633749	18
Helix aspersa	Brown garden snail	Hel as 1.0101	Food Animal	Helix Hel as 1 tropomyosin	IgE but no biological test	284	CAB38044.1	4468224	7
Hevea brasiliensis	Para rubber tree	Hev b 1.0101	Contact	Hevea Hev b 1	IgE plus basophil+ or SPT+	138	CAA39880.1	18839	15
Hevea brasiliensis	Para rubber tree	Hev b 10.0101	Contact	Hevea Hev b 10	IgE but no biological test	233	AAA16792.1	348137	7
Hevea brasiliensis	Para rubber tree	Hev b 10.0102	Contact	Hevea Hev b 10	IgE but no biological test	205	CAB53458.1	5777414	7
Hevea brasiliensis	Para rubber tree	Hev b 10.0103	Contact	Hevea Hev b 10	IgE but no biological test	205	CAC13961.1	10862818	7
Hevea brasiliensis	Para rubber tree	Hev b 11.0101	Contact	Hevea Hev b 11	IgE but no biological test	295	CAC42881.1	14575525	7
Hevea brasiliensis	Para rubber tree	Hev b 12.0101	Contact	Hevea Hev b 12	IgE but no biological test	116	AAL25839.1	20135538	7
Hevea brasiliensis	Para rubber tree	Hev b 13.0101	Contact	Hevea Hev b 13	IgE but no biological test	391	AAP37470.1	30909057	7
Hevea brasiliensis	Para rubber tree	Hev b 14.0101	Contact	Hevea Hev b 14 hevamine	IgE but no biological test	208	ADR82196.1	313870530	12
Hevea brasiliensis	Para rubber tree	Hev b 15.0101	Contact	Hevea Hev b 15	IgE but no biological test	70	CCW27997.1	571257122	15
Hevea brasiliensis	Para rubber tree	Hev b 2.0101	Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	374	AAA87456.1	1184668	7
Hevea brasiliensis	Para rubber tree		Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	374	AAP87281.1	32765543	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	374	ABN03965.1	124294783	8
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	374	ABN03966.1	124294785	8
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	374	ABN09653.1	124365249	8
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	374	ABN09654.1	124365251	8
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	374	ABN09655.1	124365253	8
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	374	ACY91851.1	268037674	11
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	374	ACZ74626.1	270315180	11
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	373	AEV41413.1	359359690	13
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	374	AFJ97275.1	387778882	13
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	IgE plus basophil+ or SPT+	374	AFJ97274.1	387778880	13
Hevea brasiliensis	Para rubber tree	Hev b 3.0101	Contact	Hevea Hev b 3	IgE plus basophil+ or SPT+	204	AAC82355.1	3818475	11
Hevea brasiliensis	Para rubber tree	Hev b 4.0101	Contact	Hevea Hev b 4	IgE but no biological test	366	AAR98518.1	46410859	7
Hevea brasiliensis	Para rubber tree	Hev b 5.0101	Contact	Hevea Hev b 5	IgE plus basophil+ or SPT+	151	AAC49447.1	1480457	7
Hevea brasiliensis	Para rubber tree		Contact	Hevea Hev b 6	IgE plus basophil+ or SPT+	187	CAA05978.1	2832430	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 6	IgE plus basophil+ or SPT+	43	1WKX_A	73535415	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 6	IgE plus basophil+ or SPT+	204	ABW34946.1	158342650	9

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Hevea brasiliensis	Para rubber tree	Hev b 7.01	Contact	Hevea Hev b 7	IgE plus basophil+ or SPT+	388	AAC27724.1	1916805	7
Hevea brasiliensis	Para rubber tree	Hev b 7.02	Contact	Hevea Hev b 7	IgE plus basophil+ or SPT+	388	CAA11041.1	3087805	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 7	IgE plus basophil+ or SPT+	388	CAA11042.1	3288200	7
Hevea brasiliensis	Para rubber tree		Contact	Hevea Hev b 7	IgE plus basophil+ or SPT+	388	AAF25553.1	6707018	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 7	IgE plus basophil+ or SPT+	387	CAE85467.1	41581137	7
Hevea brasiliensis	Para rubber tree	Hev b 8.0101	Contact	Hevea Hev b 8	IgE plus basophil+ or SPT+	131	CAA75312.1	3183706	7
Hevea brasiliensis	Para rubber tree		Contact	Hevea Hev b 8	IgE plus basophil+ or SPT+	131	1G5U_A	11513601	7
Hevea brasiliensis	Para rubber tree	Hev b 8.0201	Contact	Hevea Hev b 8	IgE plus basophil+ or SPT+	131	AAF34341.1	6979167	11
Hevea brasiliensis	Para rubber tree	Hev a 9.0101	Contact	Hevea Hev b 8	IgE plus basophil+ or SPT+	131	AAF34342.1	6979169	11
Hevea brasiliensis	Para rubber tree	Hev b 8.0203	Aero Mite	Hevea Hev b 8	IgE plus basophil+ or SPT+	131	AAF34343.1	6979171	11
Hevea brasiliensis	Para rubber tree	Hev b 8.0102	Contact	Hevea Hev b 8	IgE plus basophil+ or SPT+	131	CAB51914.1	5689740	15
Hevea brasiliensis	Para rubber tree	Hev b 8.0204	Contact	Hevea Hev b 8	IgE plus basophil+ or SPT+	131	CAB96215.1	8919948	15
Hevea brasiliensis	Para rubber tree	Hev a 9.0101	Contact	Hevea Hev b 9	IgE but no biological test	445	CAC00532.1	9581744	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 9	IgE but no biological test	445	Q9LEI9.1	14423687	9
Hevea brasiliensis subsp. brasilien	Para rubber tree	Hev b 11.0102	Contact	Hevea Hev b 11	IgE but no biological test	295	CAD24068.1	27526732	7
Holcus lanatus	Velvet grass	Hol l 1.0101	Aero Plant	Holcus Hol l 1	IgE but no biological test	265	CAA81610.1	414703	7
Holcus lanatus	Velvet grass	Hol l 1.0102	Aero Plant	Holcus Hol l 1	IgE but no biological test	248	CAA93121.1	1167836	7
Holcus lanatus	Velvet grass	Unassigned	Aero Plant	Holcus Hol l 1	IgE but no biological test	263	CAA10140.1	3860384	7
Holcus lanatus	Velvet grass	Unassigned	Aero Plant	Holcus Hol l 5	IgE plus basophil+ or SPT+	20	Q7M262	75140046	7
Holcus lanatus	Velvet grass	Hol l 5.0201	Aero Plant	Holcus Hol l 5	IgE plus basophil+ or SPT+	240	CAB10766.1	2266623	7
Holcus lanatus	Velvet grass	Hol l 5.0101	Aero Plant	Holcus Hol l 5	IgE plus basophil+ or SPT+	264	CAB10765.1	2266625	7
Holcus lanatus	Velvet grass	Unassigned	Aero Plant	Holcus Hol l 5	IgE plus basophil+ or SPT+	296	AAG42255.1	11991229	7
Homarus americanus	American lobster	Hom a 1.0102	Food Animal	Homarus Hom a 1	IgE plus basophil+ or SPT+	284	AAC48288.1	2660868	7
Homarus americanus	American lobster	Hom a 1.0101	Food Animal	Homarus Hom a 1	IgE plus basophil+ or SPT+	284	AAC48287.1	2660866	15
Hordeum vulgare	Barley	Unassigned	Aero Plant	Hordeum Alpha-amylase inhibitor component CMb	IgE plus basophil+ or SPT+	149	P32936.2	585290	7
Hordeum vulgare	Barley	Unassigned	Food Plant	Hordeum Hor v 20	IgE plus basophil+ or SPT+	289	P80198.1	1708280	15
Hordeum vulgare	Barley	Hor v 20.0101	Food Plant	Hordeum Hor v 20	IgE plus basophil+ or SPT+	286	CAA51204.1	288709	15
Hordeum vulgare	Barley	Unassigned	Food Plant	Hordeum LTP 1	IgE but no biological test	134	CAA42832.1	19039	7
Hordeum vulgare	Barley	Unassigned	Aero Plant	Hordeum LTP 1	IgE but no biological test	117	AAA32970.1	167077	7
Hordeum vulgare	Barley	Unassigned	Aero Plant	Hordeum Trypsin inhibitor CMe	IgE plus basophil+ or SPT+	144	CAA35188.1	1405736	7
Hordeum vulgare subsp. vulgare	Barley	Unassigned	Aero Plant	Hordeum Alpha-amylase inhibitor BDAI-1	IgE plus basophil+ or SPT+	152	CAA08836.1	3367714	7
Hordeum vulgare subsp. vulgare	Barley	Unassigned	Aero Plant	Hordeum Alpha-amylase inhibitor component Cma	IgE plus basophil+ or SPT+	144	CAA41956.1	18955	7
Hordeum vulgare subsp. vulgare	Barley	Unassigned	Aero Plant	Hordeum Alpha-amylase inhibitor component Cma	IgE plus basophil+ or SPT+	145	CAA49555.1	439275	7
Hordeum vulgare subsp. vulgare	Barley	Hor v 15.0101	Food Plant	Hordeum Hor v 15	IgE plus basophil+ or SPT+	146	CAA45085.1	19003	15
Hordeum vulgare subsp. vulgare	Barley	Unassigned	Aero Plant	Hordeum Trypsin inhibitor CMe	IgE plus basophil+ or SPT+	148	CAA46705.1	19009	7
Humulus japonicus	Japanese hop	Hum j 1.0101	Aero Plant	Humulus Humj1	IgE but no biological test	155	AAP94213.1	33113263	7
Humulus scandens	Japanese hop	Unassigned	Aero Plant	Humulus profilin-like protein	IgE but no biological test	131	AAP15200.1	34851176	7
Humulus scandens	Japanese hop	Unassigned	Aero Plant	Humulus profilin-like protein	IgE but no biological test	131	AAP15199.1	34851174	7
Juglans nigra	Black walnut	Jug n 4.0101	Food Plant	Jug n 4	IgE but no biological test	510	APR62629.1	1126299828	18
Juglans nigra	Black walnut	Jug n 1.0101	Food Plant	Jug r 1 Jug n 1	IgE but no biological test	161	AAM54365.1	31321942	7
Juglans nigra	Black walnut	Jug n 2.0101	Food Plant	Jug r 2	IgE but no biological test	481	AAM54366.1	31321944	7
Juglans regia	English walnut	Jug r 1.0101	Food Plant	Jug r 1 Jug n 1	IgE but no biological test	139	AAB41308.1	1794252	7
Juglans regia	English walnut		Food Plant	Jug r 2	IgE but no biological test	593	AAF18269.1	6580762	7
Juglans regia	English walnut	Jug r 3.0101	Food Plant	Jug r 3	IgE but no biological test	119	ACI47547.1	209484145	11
Juglans regia	English walnut	Jug r 4.0101	Food Plant	Jug r 4	IgE but no biological test	507	AAW29810.1	56788031	7
Juglans regia	English walnut	Jug r 5.0101	Food Plant	Jug r 5	IgE plus basophil+ or SPT+	160	APD76154.1	1104688661	17
Juglans regia	English walnut	Jug r 6.0101	Food Plant	Jug r 6	IgE but no biological test	502	XP_018814692.1	1098817075	19
Juglans regia	English walnut	Unassigned	Food Plant	Jug r 7	IgE but no biological test	131	AVD53651.1	1343184140	20
Juniperus ashei	Mountain cedar	Jun a 2.0101	Aero Plant	Juniperus Jun a 2	IgE but no biological test	507	CAC05582.1	9955725	7
Juniperus ashei	Mountain cedar	Jun a 3.0101	Aero Plant	Juniperus Jun a 3	IgE but no biological test	225	P81295.1	9087177	8
Juniperus ashei	Mountain cedar	Jun a 1.0101	Aero Plant	Juniperus Jun a/v 1	IgE but no biological test	367	AAD03608.1	4138877	7

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Juniperus oxycedrus	Juniper	Unassigned	Aero Plant	Juniperus Jun a/v 1	IgE but no biological test	367	CAC48400.1	15139849	7
Juniperus oxycedrus	Juniper	Jun o 4.0101	Aero Plant	Juniperus Jun o 4	IgE but no biological test	165	AAC15474.2	5391446	7
Juniperus rigida	Cedar	Unassigned	Aero Plant	Juniperus Jun a 3	IgE but no biological test	225	AAR21072.1	38456224	7
Juniperus rigida	Cedar	Unassigned	Aero Plant	Juniperus Jun a 3	IgE but no biological test	225	AAR21071.1	38456222	7
Juniperus virginiana	Red cedar	Unassigned	Aero Plant	Juniperus Jun a 3	IgE but no biological test	110	Q9LD79.2	51316532	7
Juniperus virginiana	Red cedar	Jun v 1.0102	Aero Plant	Juniperus Jun a/v 1	IgE but no biological test	367	AAF80164.1	8843917	7
Juniperus virginiana	Red cedar	Jun v 1.0101	Aero Plant	Juniperus Jun a/v 1	IgE but no biological test	367	AAF80166.1	8843921	7
Lactuca sativa	Garden lettuce	Lac s 1	Food Plant	Lactuca sativa LTP	IgE plus basophil+ or SPT+	117	A0A2J6KL39.1	1559988728	20
Lates calcarifer	Asian Seabass	Unassigned	Food Animal	Lat c 6	IgE plus basophil+ or SPT+	1449	XP_018521723.1	1079717864	20
Lates calcarifer	Asian Seabass	Unassigned	Food Animal	Lat c 6	IgE plus basophil+ or SPT+	1355	XP_018522130.1	1079717942	21
Lates calcarifer	Asian Seabass	Unassigned	Food Animal	Lat c 6	IgE plus basophil+ or SPT+	729	XP_018558992.1	1079777957	21
Lates calcarifer	Asian Seabass	Lat c 1.0101	Food Animal	Lates Lat c 1	IgE but no biological test	109	AAV97933.1	56553743	15
Lates calcarifer	Asian Seabass	Lat c 1.0201	Food Animal	Lates Lat c 1	IgE but no biological test	109	AAT45383.1	48526356	15
Lens culinaris	Lentil	Len c 3.0101	Food Plant	Lens Len c 3	IgE but no biological test	118	AAX35807.1	60735410	15
Lens culinaris	Lentil	Len c 1.0101	Food Plant	Lens Len c 1	IgE but no biological test	418	CAD87730.1	29539109	7
Lens culinaris	Lentil	Len c 1.0102	Food Plant	Lens Len c 1	IgE but no biological test	415	CAD87731.1	29539111	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Blomia Blo t 12	IgE plus basophil+ or SPT+	143	AAQ55550.1	33943777	7
Lepidoglyphus destructor	Storage mite	Lep d 10.0101	Aero Mite	Lepidoglyphus Lep d 10	IgE but no biological test	284	CAB71342.1	6900304	15
Lepidoglyphus destructor	Storage mite	Lep d 13.0101	Aero Mite	Lepidoglyphus Lep d 13	IgE but no biological test	131	CAB62213.1	6523380	15
Lepidoglyphus destructor	Storage mite	Lep d 2.0102	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	CAD32313.1	21213898	7
Lepidoglyphus destructor	Storage mite	Lep d 2.0202	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	CAD32314.1	21213900	7
Lepidoglyphus destructor	Storage mite		Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	2118249B	1582223	7
Lepidoglyphus destructor	Storage mite		Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	2118249A	1582222	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	AAQ73484.1	34495274	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	AAQ73486.1	34495278	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	140	AAQ73487.1	34495280	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	AAQ73488.1	34495282	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	AAQ73489.1	34495284	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	AAQ73490.1	34495286	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	AAQ73491.1	34495288	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	AAQ73492.1	34495290	7
Lepidoglyphus destructor	Storage mite	Lep d 2.0101	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	98	CAA57160.1	587450	15
Lepidoglyphus destructor	Storage mite	Lep d 2.0201	Aero Mite	Lepidoglyphus Lep d 2	IgE but no biological test	141	CAA58755.1	999458	15
Lepidoglyphus destructor	Storage mite	Lep d 5.0102	Aero Mite	Lepidoglyphus Lep d 5	IgE but no biological test	171	AAQ73493.1	34495292	7
Lepidoglyphus destructor	Storage mite	Lep d 5.0103	Aero Mite	Lepidoglyphus Lep d 5	IgE but no biological test	169	AAQ73494.1	34495294	7
Lepidoglyphus destructor	Storage mite	Lep d 5.0101	Aero Mite	Lepidoglyphus Lep d 5	IgE but no biological test	110	CAB62212.1	6523378	15
Lepidoglyphus destructor	Storage mite	Lep d 7.0101	Aero Mite	Lepidoglyphus Lep d 7	IgE but no biological test	216	CAB65963.1	6706282	15
Lepidorhombus whiffiagonis	Flat fish	Lep w 1.0101	Food Animal	Lepidorhombus Lep w 1 parvalbumin	IgE but no biological test	109	CAP17694.1	208608078	10
Lepisma saccharina	Silverfish	Lep s 1.0101	Aero Insect	Lepisma Tropomyosin	IgE plus basophil+ or SPT+	284	CAC84590.2	20387027	7
Lepisma saccharina	Silverfish	Unassigned	Aero Insect	Lepisma Tropomyosin	IgE plus basophil+ or SPT+	243	CAC84593.2	20387029	7
Ligustrum vulgare	Privet	Lig v 1.0101	Aero Plant	Ligustrum Lig v 1	IgE but no biological test	145	CAA54818.1	3256210	7
Ligustrum vulgare	Privet	Lig v 1.0102	Aero Plant	Ligustrum Lig v 1	IgE but no biological test	145	CAA54819.1	3256212	7
Lilium longiflorum	Trumpet lily	Unassigned	Aero Plant	Lilium polygalacturonase	IgE but no biological test	413	AAZ91659.1	73913442	8
Liposcelis bostrychophila	booklice	Lip b 1.0101	Aero Insect	Liposcelis Lip b 1 Fragments	IgE but no biological test	254	BAW03243.1	1109516247	18
Liposcelis bostrychophila	booklice	Lip b 1.0102	Aero Insect	Liposcelis Lip b 1 Fragments	IgE but no biological test	254	BAW03242.1	1109516245	18
Litchi chinensis	Lychee nut	Lit c 1.0101	Food Plant	Litchi Lit c 1	IgE but no biological test	131	AAL07320.1	15809696	7
Litchi chinensis	Lychee nut	Unassigned	Food Plant	Litchi Lit c 1	IgE but no biological test	131	ABC02750.1	83317152	7
Litopenaeus vannamei	Whiteleg Shrimp	Lit v 4.0101	Food Animal	Litopenaeus Lit v 4 sarcoplasmic Ca+ binding	IgE plus basophil+ or SPT+	193	ACM89179.1	223403273	11
Litopenaeus vannamei	Whiteleg Shrimp	Lit v 1.0101	Food Animal	Litopenaeus Lit v 1 tropomyosin	IgE but no biological test	284	ACB38288.1	170791252	10
Litopenaeus vannamei	Whiteleg Shrimp	Lit v 2.0101	Food Animal	Litopenaeus Lit v 2	IgE but no biological test	356	ABI98020.1	115492980	8
Litopenaeus vannamei	Whiteleg Shrimp	Unassigned	Food Animal	Litopenaeus Lit v 2	IgE but no biological test	356	B0FRF9.1	1679377515	20
Litopenaeus vannamei	Whiteleg Shrimp	Lit v 3.0101	Food Animal	Litopenaeus Lit v 3 myosin	IgE but no biological test	177	ACC76803.1	184198734	10

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Lolium perenne	Perennial ryegrass		Aero Plant	Lolium Lol p 1	IgE plus basophil+ or SPT+	263	P14946.2	126385	7
Lolium perenne	Perennial ryegrass	Lol p 1.0102	Aero Plant	Lolium Lol p 1	IgE plus basophil+ or SPT+	252	AAA63278.1	168314	7
Lolium perenne	Perennial ryegrass	Lol p 1.0101	Aero Plant	Lolium Lol p 1	IgE plus basophil+ or SPT+	263	AAA63279.1	168316	10
Lolium perenne	Perennial ryegrass	Lol p 1.0103	Aero Plant	Lolium Lol p 1	IgE plus basophil+ or SPT+	263	CAB63699.1	6599300	10
Lolium perenne	Perennial ryegrass	Lol p 11.0101	Aero Plant	Lolium Lol p 11	IgE plus basophil+ or SPT+	134	Q7M1X5.1	47605808	7
Lolium perenne	Perennial ryegrass	Lol p 2.0101	Aero Plant	Lolium Lol p 2	IgE plus basophil+ or SPT+	97	P14947.1	126386	7
Lolium perenne	Perennial ryegrass		Aero Plant	Lolium Lol p 2	IgE plus basophil+ or SPT+	88	CAA51775.1	939932	7
Lolium perenne	Perennial ryegrass	Lol p 3.0101	Aero Plant	Lolium Lol p 3	IgE but no biological test	97	P14948.1	126387	7
Lolium perenne	Perennial ryegrass	Lol p 4.0101	Aero Plant	Lolium Lol p 4	IgE plus basophil+ or SPT+	423	CAH92637.1	55859464	7
Lolium perenne	Perennial ryegrass		Aero Plant	Lolium Lol p 5	IgE plus basophil+ or SPT+	301	AAD20386.1	4416516	7
Lolium perenne	Perennial ryegrass		Aero Plant	Lolium Lol p 5	IgE plus basophil+ or SPT+	301	CAB64344.1	6634467	7
Lolium perenne	Perennial ryegrass	Lol p 5.0101	Aero Plant	Lolium Lol p 5	IgE plus basophil+ or SPT+	339	AAA33405.1	455288	10
Lolium perenne	Perennial ryegrass	Lol p 5.0102	Aero Plant	Lolium Lol p 5	IgE plus basophil+ or SPT+	307	Q40240.2	332278195	12
Lupinus albus	white lupine	Unassigned	Food Plant	Lupinus albus congluten beta	IgE but no biological test	531	CAI84850.2	89994190	14
Lupinus albus	white lupine	Unassigned	Food Plant	Lupinus albus congluten beta	IgE but no biological test	533	Q6EBC1.1	75121065	17
Lupinus angustifolius	blue lupin	Unassigned	Food Plant	Lupinus Lup an 1 conglutin beta	IgE but no biological test	521	ABR21771.1	149208401	9
Lupinus angustifolius	blue lupin	Unassigned	Food Plant	Lupinus Lup an 1 conglutin beta	IgE but no biological test	455	ABR21772.1	149208403	9
Lupinus angustifolius	blue lupin	Lup an 1.0101	Food Plant	Lupinus Lup an 1 conglutin beta	IgE but no biological test	611	ACB05815.1	169950562	10
Lupinus angustifolius	blue lupin	Unassigned	Food Plant	Lupinus Lup an 1 conglutin beta	IgE but no biological test	605	F5B8W5.1	980951568	17
Lupinus angustifolius	blue lupin	Unassigned	Food Plant	Lupinus Lup an 1 conglutin beta	IgE but no biological test	593	F5B8W4.1	980951565	17
Lupinus angustifolius	blue lupin	Unassigned	Food Plant	Lupinus Lup an 1 conglutin beta	IgE but no biological test	637	F5B8W3.1	980951561	17
Lupinus angustifolius	blue lupin	Unassigned	Food Plant	Lupinus Lup an 1 conglutin beta	IgE but no biological test	590	F5B8W2.1	980951555	17
Lupinus angustifolius	blue lupin	Unassigned	Food Plant	Lupinus Lup an 1 conglutin beta	IgE but no biological test	580	F5B8W1.1	980951550	17
Lupinus angustifolius	blue lupin	Unassigned	Food Plant	Lupinus Lup an 1 conglutin beta	IgE but no biological test	603	F5B8W0.1	980951548	17
Lupinus angustifolius	blue lupin	Unassigned	Food Plant	Lupinus Lup an 1 conglutin beta	IgE but no biological test	611	F5B8V9.1	980951518	17
Lycium barbarum	wolfberry	Unassigned	Food Plant	Lycium ltp	IgE but no biological test	51	B3A0N2.1	363805423	13
Macrobrachium rosenbergii	Giant River Prawn	Mac r 1.0101	Food Animal	Macrobrachium rosenbergii shrimp tropomyosin	IgE but no biological test	284	ADC55380.1	288819271	11
Macrobrachium rosenbergii	Giant River Prawn	Unassigned	Food Animal	Macrobrachium rosenbergii shrimp tropomyosin	IgE but no biological test	284	AHA85706.1	558698675	15
Macruronus magellanicus	Patagonian Grenadier	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	98	P86739.1	308191450	12
Macruronus magellanicus	Patagonian Grenadier	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86741.1	308191461	12
Macruronus magellanicus	Patagonian Grenadier	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	74	P86740.1	308191474	12
Macruronus novaezelandiae	Blue hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	83	P86742.1	308191475	12
Malassezia furfur	Yeast	Mala f 2.0101	Contact	Malassezia Mala f 2	IgE but no biological test	177	BAA32435.1	3445490	7
Malassezia furfur	Yeast	Mala f 3.0101	Contact	Malassezia Mala f 3	IgE but no biological test	166	BAA32436.1	3445492	7
Malassezia furfur	Yeast	Mala f 4.0101	Contact	Malassezia Mala f 4	IgE but no biological test	342	AAD25927.1	4587985	7
Malassezia sympodialis	Yeast	Mala s 1.0101	Contact	Malassezia Mala s 1	IgE plus basophil+ or SPT+	350	CAA65341.1	1261972	7
Malassezia sympodialis	Yeast	Mala s 10.0101	Contact	Malassezia Mala s 10 heat shock protein	IgE but no biological test	773	CAD20981.3	28564467	14
Malassezia sympodialis	Yeast	Mala s 11.0101	Contact	Malassezia Mala s 11 first 38 aa signal	IgE but no biological test	237	CAD68071.1	28569698	7
Malassezia sympodialis	Yeast	Mala s 12.0101	Contact	Malassezia Mala s 12	IgE but no biological test	618	CAI43283.4	78038796	7
Malassezia sympodialis	Yeast	Mala s 5.0101	Contact	Malassezia Mala s 5	IgE but no biological test	172	CAA09883.1	4138171	7
Malassezia sympodialis	Yeast	Mala s 6.0101	Contact	Malassezia Mala s 6	IgE but no biological test	162	CAA09884.1	4138173	7
Malassezia sympodialis	Yeast	Mala s 7.0101	Contact	Malassezia Mala s 7	IgE but no biological test	187	CAA09885.1	4138175	7
Malassezia sympodialis	Yeast	Mala s 8.0101	Contact	Malassezia Mala s 8	IgE but no biological test	179	CAA09886.2	7271239	7
Malassezia sympodialis	Yeast	Mala s 9.0101	Contact	Malassezia Mala s 9	IgE but no biological test	342	CAA09887.4	19069920	7
Malassezia sympodialis ATCC 421	Yeast	Unassigned	Contact	Malassezia Mala s 10 heat shock protein	IgE but no biological test	773	CCU97864.1	465797105	14
Malassezia sympodialis ATCC 421	Yeast	Unassigned	Contact	Malassezia Mala s 11 first 38 aa signal	IgE but no biological test	202	CCV00099.1	465795607	14
Malassezia sympodialis ATCC 421	Yeast	Mala s 13	Contact	Malassezia Mala s 13 Thioredoxin Rev	IgE plus basophil+ or SPT+	107	CCU98198.1	465793078	14
Malassezia sympodialis ATCC 421	Yeast	Unassigned	Contact	Malassezia Mala s 5	IgE but no biological test	172	CCU99457.1	465794772	14
Malassezia sympodialis ATCC 421	Yeast	Unassigned	Contact	Malassezia Mala s 7	IgE but no biological test	200	SHO79205.1	1129841119	18
Malassezia sympodialis ATCC 421	Yeast	Unassigned	Contact	Malassezia Mala s 9	IgE but no biological test	342	CCU99206.1	465794420	14

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Malus x domestica	Apple	Mal d 1.0301	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	CAA96534.1	1313966	7
Malus x domestica	Apple	Mal d 1.0401	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	160	CAA96535.1	1313968	7
Malus x domestica	Apple	Mal d 1.0402	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	160	CAA96536.1	1313970	7
Malus x domestica	Apple	Mal d 1.0403	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	160	CAA96537.1	1313972	7
Malus x domestica	Apple	Mal d 1.0206	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAD13683.1	2443824	7
Malus x domestica	Apple	Mal d 1.0103	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAD26546.1	4590364	7
Malus x domestica	Apple	Mal d 1.0203	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAD26547.1	4590366	7
Malus x domestica	Apple	Mal d 1.0204	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAD26548.1	4590368	7
Malus x domestica	Apple	Mal d 1.0104	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAD26552.1	4590376	7
Malus x domestica	Apple	Mal d 1.0105	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAD26553.1	4590378	7
Malus x domestica	Apple	Mal d 1.0106	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAD26554.1	4590380	7
Malus x domestica	Apple	Mal d 1.0107	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAD26555.1	4590382	7
Malus x domestica	Apple	Mal d 1.0205	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAD26558.1	4590388	7
Malus x domestica	Apple	Mal d 1.0208	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	158	CAD32318.1	21685277	7
Malus x domestica	Apple	Mal d 1.0304	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAO25113.1	27922941	7
Malus x domestica	Apple	Mal d 1.0108	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAD29671.1	4768879	11
Malus x domestica	Apple	Mal d 1.0201	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAB01362.1	862307	11
Malus x domestica	Apple	Mal d 1.0102	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	CAA88833.1	886683	11
Malus x domestica	Apple	Mal d 1.0101	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	CAA58646.1	747852	15
Malus x domestica	Apple	Mal d 1.0109	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAK13029.1	15418742	15
Malus x domestica	Apple	Mal d 1.0207	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAK13030.1	15418744	15
Malus x domestica	Apple	Mal d 1.0302	Food Plant	Malus Mal d 1	IgE plus basophil+ or SPT+	159	AAK13027.1	15418738	15
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	IgE but no biological test	26	AAB35897.1	1478293	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	IgE but no biological test	246	AAX19848.1	60418842	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	IgE but no biological test	246	AAX19851.1	60418848	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	IgE but no biological test	246	Q9FSG7.1	30316292	8
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	IgE but no biological test	158	CAT99612.1	218059718	10
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	IgE but no biological test	158	CAT99611.1	218059715	10
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	IgE but no biological test	193	AFM77001.1	392507603	13
Malus x domestica	Apple	Mal d 2.0101	Food Plant	Malus Mal d 2	IgE but no biological test	245	AAC36740.1	3643249	15
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	IgE but no biological test	159	APG29330.1	1109403341	18
Malus x domestica	Apple	Mal d 3.0201	Food Plant	Malus Mal d 3	IgE plus basophil+ or SPT+	115	AAF26450.1	6715522	7
Malus x domestica	Apple	Mal d 3.0203	Food Plant	Malus Mal d 3	IgE plus basophil+ or SPT+	115	AAT80665.1	50659891	7
Malus x domestica	Apple	Mal d 3.0202	Food Plant	Malus Mal d 3	IgE plus basophil+ or SPT+	115	AAT80664.1	50659889	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 3	IgE plus basophil+ or SPT+	115	AAT80662.1	50659885	7
Malus x domestica	Apple		Food Plant	Malus Mal d 3	IgE plus basophil+ or SPT+	115	AAT80659.1	50659879	7
Malus x domestica	Apple	Mal d 3.0102	Food Plant	Malus Mal d 3	IgE plus basophil+ or SPT+	115	AAT80649.1	50659859	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 3	IgE plus basophil+ or SPT+	115	AAR22488.1	38492338	7
Malus x domestica	Apple	Mal d 4.0302	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	CAD46559.1	28881453	7
Malus x domestica	Apple	Mal d 4.0102	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	CAD46561.1	28881457	7
Malus x domestica	Apple	Mal d 4.0202	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	CAD46560.1	28881455	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	AAX19854.1	60418854	7
Malus x domestica	Apple		Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	AAX19856.1	60418858	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	AAX19858.1	60418862	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	AAX19860.1	60418866	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	CAK93713.1	164510842	9
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	CAK93753.1	164510858	9
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	CAK93757.1	164510860	9
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	77	CAT99618.1	218059730	10
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	115	CAT99619.1	218059733	10
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	CAT99617.1	218059728	10
Malus x domestica	Apple	Mal d 4.0301	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	AAD29412.1	4761584	11
Malus x domestica	Apple	Mal d 4.0201	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	AAD29413.1	4761586	11

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Malus x domestica	Apple	Mal d 4.0101	Food Plant	Malus Mal d 4	IgE plus basophil+ or SPT+	131	AAD29414.1	4761588	11
Manihot esculenta	Cassava	Unassigned	Food Plant	Manihot Man e 5.0101	IgE but no biological test	177	AAM55492.1	21585695	7
Manihot esculenta	Cassava	Man e 5.0101	Food Plant	Manihot Man e 5.0101	IgE but no biological test	177	AEE98392.1	332713934	14
Manilkara zapota	Sapodilla plum	Unassigned	Food Plant	Manilkara Thaumatin like protein 1	IgE but no biological test	12	B3EWS0.1	442580988	14
Manilkara zapota	Sapodilla plum	Unassigned	Food Plant	Manilkara Thaumatin like protein 1	IgE but no biological test	9	B3EWE5.3	442570282	14
Manilkara zapota	Sapodilla plum	Unassigned	Food Plant	Manilkara Thaumatin like protein 1	IgE but no biological test	207	G5DC91.2	663434113	15
Marsupenaeus japonicus	Kuruma Shrimp	Unassigned	Food Animal	Marsupenaeus tropomyosin	IgE but no biological test	284	BAF47263.1	125995159	8
Melicertus latisulcatus	King Prawn	Mel l 1.0101	Food Animal	Melicertus tropomyosin	IgE but no biological test	284	AGF86397.1	451935062	14
Mercurialis annua	Annual mercury grass	Mer a 1.0101	Aero Plant	Mercurialis Mer a 1	IgE but no biological test	133	CAA73720.1	2959898	7
Merluccius australis australis	southern hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86745.1	308191452	12
Merluccius australis polylepis	Southern hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86749.1	308191453	12
Merluccius australis polylepis	Southern hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86750.1	308191464	12
Merluccius bilinearis	Silver hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86752.1	308191465	12
Merluccius bilinearis	Silver hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86753.1	308191478	12
Merluccius bilinearis	Silver hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	94	P86754.1	308191488	12
Merluccius capensis	Shallow-water cape hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86757.1	308191466	12
Merluccius gayi	Southern Pacific hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86761.1	308191455	12
Merluccius gayi	Southern Pacific hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	91	P86760.1	308191489	12
Merluccius merluccius	European hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P02620.1	131116	12
Merluccius merluccius	European hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86765.1	308191469	12
Merluccius paradoxus	Deep-water cape hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86768.1	308191457	12
Merluccius paradoxus	Deep-water cape hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86769.1	308191470	12
Merluccius paradoxus	Deep-water cape hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	95	P86770.1	308191483	12
Merluccius polli	Benguela hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86771.1	308191471	12
Merluccius polli	Benguela hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	69	P86772.1	308191484	12
Merluccius productus	North Pacific hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86774.1	308191459	12
Merluccius productus	North Pacific hake	Unassigned	Food Animal	Merluccius sp. Macruronus sp. Parvalbumin Hake	IgE but no biological test	108	P86775.1	308191472	12
Mesocricetus auratus	Golden hamster	Mes a 1.0101	Aero Animal	Mesocricetus auratus Mes a 1	IgE but no biological test	172	AAD55792.2	13124669	16
Mesocricetus auratus	Golden hamster	Unassigned	Aero Animal	Mesocricetus auratus Mes a 1	IgE but no biological test	172	Q99MG7.1	81916647	17
Metapenaeus ensis	Greasyback shrimp	Met e 1.0101	Food Animal	Metapenaeus Met e 1 Tropomyosin	IgE but no biological test	274	AAA60330.1	607633	7
Mimachlamys nobilis	Noble scallop	Unassigned	Food Animal	Mimachlamys Tropomyosin	IgE plus basophil+ or SPT+	284	AAG08989.1	9954253	7
Morus alba var. atropurpurea	White Mulberry	Unassigned	Food Plant	Morus winter accumulating protein	IgE but no biological test	157	AHW81906.1	610664572	15
Morus bombycis	Mulberry	Unassigned	Food Plant	Morus winter accumulating protein	IgE but no biological test	157	AAV33670.1	54311115	12
Morus bombycis	Mulberry	Unassigned	Food Plant	Morus winter accumulating protein	IgE but no biological test	157	AAV33672.1	54311119	12
Morus nigra	Black mulberry	Mor n 3.0101	Food Plant	Morus Mor n 3 mulberry LTP	IgE plus basophil+ or SPT+	91	P85894.1	288561913	11
Mus musculus	Mouse		Aero Animal	Mus Mus m 1	IgE plus basophil+ or SPT+	180	P02762.2	20178291	7
Mus musculus	Mouse	Mus m 1.0101	Aero Animal	Mus Mus m 1	IgE plus basophil+ or SPT+	180	CAA26953.1	295910	15
Mus musculus	Mouse	Unassigned	Aero Animal	Mus Mus m 1	IgE plus basophil+ or SPT+	181	A2BIM8.1	980952242	17
Mus musculus domesticus	Mouse	Mus m 1.0102	Aero Animal	Mus Mus m 1	IgE plus basophil+ or SPT+	180	AAA39768.1	199881	15
Musa acuminata	Banana	Mus a 1.0101	Food Plant	Musa acuminata Mus a 1 profilin banana	IgE but no biological test	131	AAK54834.1	14161635	7
Musa acuminata	Banana	Unassigned	Food Plant	Musa acuminata Mus a 5 Endo-Beta-1,3-Glucanase	IgE plus basophil+ or SPT+	312	2CYG_A	83754908	7
Musa acuminata	Banana	Mus a 4.0101	Food Plant	Musa Mus a 4	IgE plus basophil+ or SPT+	200	1Z3Q_A	88191901	7
Musa acuminata	Banana	Mus a 2.0101	Food Plant	Musa Mus s 2	IgE but no biological test	318	CAC81811.1	17932710	15
Musa acuminata AAA Group	Banana	Unassigned	Food Plant	Musa acuminata Mus a 5 Endo-Beta-1,3-Glucanase	IgE plus basophil+ or SPT+	340	AAB82772.2	6073860	14

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Mustelus griseus		Unassigned	Food Animal	Mustelus griseus parvalbumin	IgE but no biological test	110	5ZGM_A	1446210823	20
Mustelus griseus		Unassigned	Food Animal	Mustelus griseus parvalbumin	IgE but no biological test	107	5ZH6_A	1446210825	20
Myrmecia banksi	Giant Bull Ant	Myr p 3.0101	Venom or Salivary	Myrmecia Myr p 3 listed as Myrmecia banksi	IgE but no biological test	84	BAD36780.1	51241753	15
Myrmecia pilosula	Jumper ant	Unassigned	Venom or Salivary	Myrmecia Myr p 1	IgE but no biological test	112	AAB50883.1	1911819	7
Myrmecia pilosula	Jumper ant	Myr p 1.0101	Venom or Salivary	Myrmecia Myr p 1	IgE but no biological test	112	CAA49760.1	312284	15
Myrmecia pilosula	Jumper ant		Venom or Salivary	Myrmecia Myr p 2	IgE but no biological test	75	2206305A	1587177	7
Myrmecia pilosula	Jumper ant	Myr p 2.0101	Venom or Salivary	Myrmecia Myr p 2	IgE but no biological test	75	AAB36316.1	1438761	10
Neptunea polycostata	Wrinkled Neptune	Unassigned	Food Animal	Neptunea tropomyosin	IgE but no biological test	284	BAH10150.1	219806590	10
Nicotiana tabacum	Tobacco	Unassigned	Aero Plant	Nicotiana villin	IgE but no biological test	520	CAE17317.1	57283139	7
Nicotiana tabacum	Tobacco	Unassigned	Aero Plant	Nicotiana villin	IgE but no biological test	559	CAE17316.1	57283137	7
Octopus vulgaris	Octopus	Unassigned	Food Animal	Octopus tropomyosin	IgE but no biological test	284	BAE54433.1	83715936	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Ole e 14 Olea europea polygalacturonase	IgE but no biological test	379	AHL24656.1	589912881	15
Olea europaea	Olive tree	Ole e 13.0101	Aero Plant	Olea e 13 in WHO IUIS	IgE but no biological test	226	E3SU11.1	449061783	14
Olea europaea	Olive tree	Ole e 1.0102	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	145	P19963.2	14424429	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	137	I53806	1362128	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	136	E53806	1362129	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	136	F53806	1362130	7
Olea europaea	Olive tree	Ole e 1.0104	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	145	C53806	1362131	7
Olea europaea	Olive tree		Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	137	A38968	1362132	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	136	G53806	1362133	7
Olea europaea	Olive tree	Ole e 1.0103	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	145	B53806	1362136	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	136	H53806	1362137	7
Olea europaea	Olive tree	Ole e 1.0105	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	146	CAA73038.1	2465127	7
Olea europaea	Olive tree	Ole e 1.0106	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	146	CAA73037.1	2465129	7
Olea europaea	Olive tree	Ole e 1.0107	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	146	CAA73036.1	2465131	7
Olea europaea	Olive tree	Ole e 1.0101	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	130	AAB32652.2	13195753	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	134	AAO22133.1	37724597	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	135	AAO22132.1	37724593	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	132	AAN18044.1	37548753	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	131	AAQ10281.1	33329758	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	132	AAQ10280.1	33329756	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	132	AAQ10279.1	33329754	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	131	AAQ10278.1	33329752	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	131	AAQ10277.1	33329750	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	129	AAQ10276.1	33329748	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	131	AAQ10274.1	33329744	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	132	AAQ10271.1	33329738	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	132	AAQ10268.1	33329732	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	132	AAQ08190.1	33325115	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	140	ABP58632.1	145313982	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	140	ABP58633.1	145313984	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	140	ABP58635.1	145313988	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	140	ABP58636.1	145313990	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	IgE plus basophil+ or SPT+	140	ABP58637.1	145313992	9
Olea europaea	Olive tree	Ole e 10.0101	Aero Plant	Olea Ole e 10	IgE plus basophil+ or SPT+	123	AAL92578.1	29465664	7
Olea europaea	Olive tree		Aero Plant	Olea Ole e 11.0101 and 0102	IgE but no biological test	364	AAY88919.1	68270856	11
Olea europaea	Olive tree	Ole e 11.0101	Aero Plant	Olea Ole e 11.0101 and 0102	IgE but no biological test	364	ACZ57582.1	269996495	11
Olea europaea	Olive tree	Ole e 12.0101	Aero Plant	olea Ole e 12 in WHO IUIS	IgE but no biological test	308	E1U332.1	449061782	14
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 15 cyclophilin	IgE but no biological test	172	AVV30163.1	1373739558	20
Olea europaea	Olive tree		Aero Plant	Olea Ole e 2	IgE but no biological test	134	O24170.1	3914427	7
Olea europaea	Olive tree		Aero Plant	Olea Ole e 2	IgE but no biological test	134	O24171.1	3914428	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 2	IgE but no biological test	131	A4GFC0.1	576017874	15

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Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 2	IgE but no biological test	131	A4GFC3.1	576017774	15
Olea europaea	Olive tree	Ole e 2.0101	Aero Plant	Olea Ole e 2	IgE but no biological test	134	CAA73035.1	2465133	15
Olea europaea	Olive tree	Ole e 3.0101	Aero Plant	Olea Ole e 3	IgE plus basophil+ or SPT+	84	AAD05375.1	3337403	7
Olea europaea	Olive tree		Aero Plant	Olea Ole e 3	IgE plus basophil+ or SPT+	52	AAO33897.1	37725377	7
Olea europaea	Olive tree	Ole e 5.0101	Aero Plant	Olea Ole e 5	IgE but no biological test	30	P80740.2	122064581	8
Olea europaea	Olive tree		Aero Plant	Olea Ole e 5	IgE but no biological test	152	CAD21706.2	39840779	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABP58627.1	145313972	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX26131.1	160347106	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	144	ABX26132.1	160347108	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX26134.1	160347112	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX26138.1	160347120	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX26139.1	160347122	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX26140.1	160347124	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX26141.1	160347126	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX26143.1	160347130	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX26145.1	160347134	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX26147.1	160347138	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX54842.1	160962543	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX54844.1	160962547	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX54849.1	160962557	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX54855.1	160962569	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX54859.1	160962577	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX54862.1	160962583	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	144	ABX54864.1	160962587	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX54866.1	160962591	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX54869.1	160962597	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX54876.1	160962611	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	IgE but no biological test	152	ABX54877.1	160962613	9
Olea europaea	Olive tree	Ole e 6.0101	Aero Plant	Olea Ole e 6	IgE but no biological test	50	AAB66909.1	2276458	11
Olea europaea	Olive tree	Ole e 7.0101	Aero Plant	Olea Ole e 7	IgE but no biological test	21	P81430.2	22002032	7
Olea europaea	Olive tree		Aero Plant	Olea Ole e 8	IgE but no biological test	171	AAF31152.1	6901654	7
Olea europaea	Olive tree	Ole e 8.0101	Aero Plant	Olea Ole e 8	IgE but no biological test	171	AAF31151.1	6901652	11
Olea europaea	Olive tree	Ole e 9.0101	Aero Plant	Olea Ole e 9	IgE plus basophil+ or SPT+	460	AAK58515.1	14279169	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 9	IgE plus basophil+ or SPT+	101	2JON_A	166235350	9
Ommastrephes bartramii	red squid	Unassigned	Food Animal	Ommastrephes tropomyosin	IgE but no biological test	284	BAE54432.1	83715934	7
Onchocerca volvulus	Parasitic nematode	Unassigned	Worm (parasite)	Onchocerca tropomyosin	IgE plus basophil+ or SPT+	284	Q25632.1	42559586	12
Oncorhynchus keta	chum salmon	Onc k 5.0101	Food Animal	Oncorhynchus Onc k 5	IgE but no biological test	193	BAJ07603.1	296040357	15
Oncorhynchus mykiss	rainbow trout	Onc m 1.0101	Food Animal	Oncorhynchus Rainbow trout parv Onc m 1	IgE but no biological test	108	P86431.1	288559139	11
Oncorhynchus mykiss	rainbow trout	Onc m 1.0201	Food Animal	Oncorhynchus Rainbow trout parv Onc m 1	IgE but no biological test	107	P86432.1	288559140	11
Oncorhynchus mykiss	rainbow trout	Unassigned	Food Animal	Oncorhynchus Rainbow trout parv Onc m 1	IgE but no biological test	97	AOO96842.1	1064270801	19
Oratosquilla oratoria	mantis shrimp	Unassigned	Food Animal	Oratosquilla tropomyosin	IgE plus basophil+ or SPT+	284	BAF95206.1	162286975	9
Oreochromis mossambicus	Mozambique tilapia	Ore m 4.0101	Food Animal	Oreochromis Ore m 4 tropomyosin	IgE but no biological test	284	AFV53352.1	410060781	14
Oryctolagus cuniculus	European rabbit	Ory c 3.A.0101	Aero Animal	Oryctolagus Ory c 3	IgE plus basophil+ or SPT+	93	AAG42806.1	11993600	15
Oryctolagus cuniculus	European rabbit	Ory c 3.B.0101	Aero Animal	Oryctolagus Ory c 3	IgE plus basophil+ or SPT+	90	AAG42802.1	11993592	15
Oryctolagus cuniculus	European rabbit	Ory c 4.0101	Aero Animal	Oryctolagus Ory c 4	IgE but no biological test	172	CCC15303.1	557943216	15
Oryza sativa	Rice	Unassigned	Food Plant	Oryza Glyoxalase I	IgE but no biological test	291	Q948T6.2	84029333	7
Oryza sativa	Rice	Ory s 1.0101	Aero Plant	Oryza Ory s 1	IgE but no biological test	263	AAA86533.1	1173557	8
Oryza sativa	Rice	Unassigned	Aero Plant	Oryza Ory s 1	IgE but no biological test	267	AAF72991.1	8118439	7
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Glyoxalase I	IgE but no biological test	291	BAB71741.1	16580747	7
Oryza sativa (japonica cultivar-gro	Rice		Aero Plant	Oryza Ory s 1	IgE but no biological test	267	Q40638.2	109913547	8
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Aero Plant	Oryza putative polcalcin Phl p 7	IgE but no biological test	82	BAD13150.1	45736119	7
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	157	BAC20657.1	23616954	8
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	165	BAA01998.1	218193	7

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Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	157	BAA01996.1	218197	7
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	111	BAA07772.1	1304216	7
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	109	BAA07773.1	1304217	7
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	113	BAA07774.1	1304218	7
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	166	BAA07710.1	1398913	7
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	160	BAA07711.1	1398915	7
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	157	BAA07712.1	1398916	7
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	160	BAA07713.1	1398918	7
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	157	AAB99797.1	2827316	7
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	166	Q01882.2	114152865	8
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	163	Q01883.2	114152864	8
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	160	BAC19997.1	23495787	8
Oryza sativa (japonica cultivar-gro	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	IgE but no biological test	160	BAC20650.1	23616947	7
Ostrya carpinifolia	European hop hornbeam	Ost c 1.0101	Aero Plant	Ostrya Ost c 1pollen allergen	IgE plus basophil+ or SPT+	160	ADK39021.1	300872535	12
Pachycondyla chinensis	Asian needle ant	Pac c 3.0101	Venom or Salivary	Pachycondyla Pac c 3 allergen	IgE but no biological test	199	ACA96507.1	169822894	10
Pandalus borealis	caribean shrimp	Pan b 1.0101	Food Animal	Pandalus Pan b 1	IgE but no biological test	284	CBY17558.1	312831088	12
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pan h 13	IgE but no biological test	333	XP_026782131.1	1503232071	21
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pan h 2	IgE but no biological test	341	XP_026777250.1	1503219495	21
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pan h 3	IgE but no biological test	364	XP_026771637.1	1503205716	21
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pan h 4	IgE but no biological test	284	XP_026781482.1	1503230610	21
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pan h 4	IgE but no biological test	284	XP_026775428.1	1503215309	21
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pan h 7	IgE but no biological test	380	XP_026780620.1	1503229023	21
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pan h 8	IgE but no biological test	248	XP_026795867.1	1503267586	21
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pan h 9	IgE but no biological test	530	XP_026775867.1	1503216605	21
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pangasianodon hypothalmus Pan h 1	IgE but no biological test	109	XP_026772003.1	1503206382	20
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pangasianodon hypothalmus Pan h 1	IgE but no biological test	109	XP_026803769.1	1503286187	20
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pangasianodon hypothalmus Pan h 11	IgE but no biological test	553	XP_026782721.1	1503233516	21
Pangasianodon hypophthalmus		Unassigned	Food Animal	Pangasianodon Pan h 10	IgE but no biological test	333	XP_026774991.1	1503214048	21
Panulirus stimpsoni	Lobster	Pan s 1.0101	Food Animal	Panulirus Pan s 1	IgE plus basophil+ or SPT+	274	AAC38996.1	3080761	11
Paralithodes camtschaticus	Kamchatka crab	Unassigned	Food Animal	Paralithodes tropomyosin	IgE but no biological test	284	BAF47265.1	125995163	8
Paralithodes camtschaticus	Kamchatka crab	Unassigned	Food Animal	Paralithodes tropomyosin	IgE but no biological test	284	BAF47266.1	125995165	8
Parietaria judaica	Weed		Aero Plant	Parietaria Par j 1	IgE plus basophil+ or SPT+	143	2008179A	741844	7
Parietaria judaica	Weed	Par j 1.0102	Aero Plant	Parietaria Par j 1	IgE plus basophil+ or SPT+	176	CAA65123.1	1532058	7
Parietaria judaica	Weed	Par j 1.0101	Aero Plant	Parietaria Par j 1	IgE plus basophil+ or SPT+	133	CAA54587.1	992612	15
Parietaria judaica	Weed	Par j 1.0103	Aero Plant	Parietaria Par j 1	IgE plus basophil+ or SPT+	139	CAI94601.1	95007033	15
Parietaria judaica	Weed		Aero Plant	Parietaria Par j 1	IgE plus basophil+ or SPT+	138	CAA59370.1	706811	15
Parietaria judaica	Weed	Par j 2.0102	Aero Plant	Parietaria Par j 2	IgE plus basophil+ or SPT+	133	CAA65122.1	1532056	7
Parietaria judaica	Weed	Par j 2.0101	Aero Plant	Parietaria Par j 2	IgE plus basophil+ or SPT+	133	P55958.1	2497750	7
Parietaria judaica	Weed	Par j 3.0102	Aero Plant	Parietaria Par j 3 profilin	IgE plus basophil+ or SPT+	131	Q9T0M8.1	14423869	7
Parietaria judaica	Weed	Par j 3.0101	Aero Plant	Parietaria Par j 3 profilin	IgE plus basophil+ or SPT+	132	Q9XG85.1	14423876	7
Parietaria judaica	Weed	Par j 3.0201	Aero Plant	Parietaria Par j 3 profilin	IgE plus basophil+ or SPT+	131	CCP19647.1	444175753	14
Parietaria judaica	Weed	Par j 4.0101	Aero Plant	Parietaria Par j 4	IgE plus basophil+ or SPT+	84	CAP05019.1	201071363	15
Parietaria officinalis	Weed	Par o 1.0101	Aero Plant	Parietaria Par o 1	IgE but no biological test	12	Q7M1E8	75139847	7
Parietaria officinalis	Weed		Aero Plant	Parietaria Par o 1	IgE but no biological test	17	AAB36008.1	1311509	7
Parietaria officinalis	Weed		Aero Plant	Parietaria Par o 1	IgE but no biological test	15	AAB36009.1	1311510	7
Parietaria officinalis	Weed		Aero Plant	Parietaria Par o 1	IgE but no biological test	15	AAB36010.1	1311511	7
Parietaria officinalis	Weed		Aero Plant	Parietaria Par o 1	IgE but no biological test	15	AAB36011.1	1311512	7
Parietaria officinalis	Weed		Aero Plant	Parietaria Par o 1	IgE but no biological test	30	AAB36012.1	1311513	7
Parietaria officinalis	Weed		Aero Plant	Parietaria Par o 1	IgE but no biological test	24	AAB46820.1	1836011	7
Parietaria officinalis	Weed	Unassigned	Aero Plant	Parietaria Par o 1	IgE but no biological test	25	AAB46819.1	1836010	7
Parthenium hysterophorus		Par h 1.0101	Aero Plant	Parthenium hysterophorus Par h 1	IgE but no biological test	156	AKF12278.1	817033923	17
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	IgE plus basophil+ or SPT+	169	CBM42667.1	338930686	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	IgE plus basophil+ or SPT+	169	CBM42666.1	338930684	12

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Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	IgE plus basophil+ or SPT+	169	CBM42665.1	338930682	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	IgE plus basophil+ or SPT+	169	CBM42664.1	338930680	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	IgE plus basophil+ or SPT+	393	CBM42663.1	338930678	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	IgE plus basophil+ or SPT+	393	CBM42662.1	338930676	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	IgE plus basophil+ or SPT+	391	CBM42661.1	338930674	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	IgE plus basophil+ or SPT+	395	CBM42660.1	338930672	12
Paspalum notatum	Bahia grass	Pas n 1.0101	Aero Plant	Paspalum Pas n 1 beta expansin	IgE plus basophil+ or SPT+	265	ACA23876.1	168419914	10
Penaeus monodon	Black tiger shrimp	Pen m 3.0101	Food Animal	Pen m 3 myosin light chain	IgE but no biological test	177	ADV17342.1	317383196	12
Penaeus monodon	Black tiger shrimp	Pen m 1.0101	Food Animal	Penaeus Pen m 1 tropomyosin	IgE but no biological test	284	AAX37288.1	60892782	15
Penaeus monodon	Black tiger shrimp	Pen m 2.0101	Food Animal	Penaeus Pen m 2	IgE plus basophil+ or SPT+	356	AAO15713.1	27463265	7
Penaeus monodon	Black tiger shrimp	Unassigned	Food Animal	Penaeus Pen m 2	IgE plus basophil+ or SPT+	356	C7E3T4.1	308154236	12
Penaeus monodon	Black tiger shrimp	Pen m 4.0101	Food Animal	Penaeus Pen m 4 sarcoplasmic calcium binding	IgE but no biological test	193	ADV17343.1	317383198	12
Penicillium brevicompactum	Fungus	Pen b 26.0101	Aero Fungi	Penicillium Pen b 26	IgE but no biological test	107	AAX11194.1	59894749	7
Penicillium chrysogenum	Fungus	Pen ch 18.0101	Aero Fungi	Penicillium Pen 18	IgE but no biological test	494	AAF71379.1	7963902	7
Penicillium chrysogenum	Fungus		Aero Fungi	Penicillium Pen 18	IgE but no biological test	494	AAG44693.2	14215732	7
Penicillium chrysogenum	Fungus	Pen ch 13.0101	Aero Fungi	Penicillium Pen ch 13	IgE plus basophil+ or SPT+	397	AAF23726.1	6684758	7
Penicillium chrysogenum	Fungus		Aero Fungi	Penicillium Pen ch 13	IgE plus basophil+ or SPT+	398	AAM33821.1	21069093	7
Penicillium chrysogenum	Fungus	Pen ch 20.0101	Aero Fungi	Penicillium Pen ch 20	IgE but no biological test	117	AAB34785.1	999009	7
Penicillium chrysogenum	Fungus	Pen ch 35.0101	Aero Fungi	Penicillium Pen ch 35	IgE but no biological test	324	ADK27483.1	300679427	15
Penicillium citrinum	Fungus	Unassigned	Aero Fungi	Penicillium Pen 18	IgE but no biological test	457	AAD25995.1	4588118	7
Penicillium citrinum	Fungus	Unassigned	Aero Fungi	Penicillium Pen 18	IgE but no biological test	358	AAG44480.1	12005501	7
Penicillium citrinum	Fungus	Pen c 19.0101	Aero Fungi	Penicillium Pen c 19	IgE but no biological test	503	Q92260.1	14423733	7
Penicillium citrinum	Fungus	Pen c 22.0101	Aero Fungi	Penicillium Pen c 22	IgE but no biological test	438	AAK51201.1	13991101	7
Penicillium citrinum	Fungus	Pen c 24.0101	Aero Fungi	Penicillium Pen c 24	IgE but no biological test	228	AAR17475.1	38326693	7
Penicillium citrinum	Fungus	Pen c 3.0101	Aero Fungi	Penicillium Pen c 3	IgE but no biological test	167	AAD42074.1	5326864	7
Penicillium citrinum	Fungus	Pen c 30.0101	Aero Fungi	Penicillium Pen c 30	IgE but no biological test	733	ABB89950.1	82754305	7
Penicillium citrinum	Fungus	Pen c 32.0101	Aero Fungi	Penicillium Pen c 32	IgE but no biological test	290	ABM60783.1	121584258	8
Penicillium citrinum	Fungus	Pen c 3.0101	Aero Fungi	Penicillium Pen ch 13	IgE plus basophil+ or SPT+	397	AAD25926.1	4587983	7
Penicillium crustosum	Fungus	Pen cr 26.0101	Aero Fungi	Penicillium crustosum Pen cr 26 60s P1	IgE but no biological test	107	AEX34122.1	371537645	13
Penicillium oxalicum	Fungus	Pen o 18.0101	Aero Fungi	Penicillium Pen 18	IgE but no biological test	503	AAG44478.1	12005497	7
Periplaneta americana	American cockroach	Per a 5.0101	Aero Insect	Per a 5 Periplaneta GST	IgE plus basophil+ or SPT+	216	AAX33729.1	60678789	7
Periplaneta americana	American cockroach	Per a 5.0102	Aero Insect	Per a 5 Periplaneta GST	IgE plus basophil+ or SPT+	216	AEV23867.1	359326557	15
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Per a 5 Periplaneta GST	IgE plus basophil+ or SPT+	216	AUW37958.1	1337340498	19
Periplaneta americana	American cockroach	Per a 11.0101	Aero Insect	Periplaneta americana Per a 11	IgE plus basophil+ or SPT+	494	AKH04310.1	821092692	16
Periplaneta americana	American cockroach	Per a 12.0101	Aero Insect	Periplaneta americana Per a 12	IgE plus basophil+ or SPT+	407	AKH04311.1	821092694	16
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Not in IUIS Per a 4	IgE but no biological test	183	AAX33728.1	60678787	7
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Not in IUIS Per a 4	IgE but no biological test	163	3EBW_A	215794707	10
Periplaneta americana	American cockroach	Per a 11.0101	Aero Insect	Periplaneta Not in IUIS Per a 4	IgE but no biological test	167	ACJ37391.1	212675312	10
Periplaneta americana	American cockroach	Per a 1.0201	Aero Insect	Periplaneta Per a 1	IgE plus basophil+ or SPT+	446	AAC34736.1	2231297	7
Periplaneta americana	American cockroach	Per a 1.0104	Aero Insect	Periplaneta Per a 1	IgE plus basophil+ or SPT+	274	AAC34737.1	2253610	7
Periplaneta americana	American cockroach	Per a 1.0103	Aero Insect	Periplaneta Per a 1	IgE plus basophil+ or SPT+	395	AAB82404.1	2580504	7
Periplaneta americana	American cockroach	Per a 1.0102	Aero Insect	Periplaneta Per a 1	IgE plus basophil+ or SPT+	228	AAC34312.1	2897849	7
Periplaneta americana	American cockroach	Per a 1.0101	Aero Insect	Periplaneta Per a 1	IgE plus basophil+ or SPT+	231	AAD13533.1	4240399	7
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 1	IgE plus basophil+ or SPT+	124	AAP13554.1	30144660	7
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 1	IgE plus basophil+ or SPT+	395	ADB92492.1	284518361	11
Periplaneta americana	American cockroach	Per a 10.0101	Aero Insect	Periplaneta Per a 10 ser protease	IgE plus basophil+ or SPT+	256	AAX33734.1	60678799	7
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 2	IgE but no biological test	351	AAX33727.1	60678785	7
Periplaneta americana	American cockroach	Per a 2.0101	Aero Insect	Periplaneta Per a 2	IgE but no biological test	351	ADR82198.1	313870534	12
Periplaneta americana	American cockroach	Per a 3.0201	Aero Insect	Periplaneta Per a 3	IgE plus basophil+ or SPT+	631	AAB09632.1	1531589	7
Periplaneta americana	American cockroach	Per a 3.0202	Aero Insect	Periplaneta Per a 3	IgE plus basophil+ or SPT+	470	AAB62731.1	1580794	7
Periplaneta americana	American cockroach	Per a 3.0203	Aero Insect	Periplaneta Per a 3	IgE plus basophil+ or SPT+	393	AAB63595.1	1580797	7
Periplaneta americana	American cockroach	Per a 3.0101	Aero Insect	Periplaneta Per a 3	IgE plus basophil+ or SPT+	685	Q25641.1	2833325	9

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Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 3	IgE plus basophil+ or SPT+	688	ADB92493.1	284518363	11
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 3	IgE plus basophil+ or SPT+	685	ADD17628.1	289721058	11
Periplaneta americana	American cockroach	Per a 6.0101	Aero Insect	Periplaneta Per a 6	IgE but no biological test	151	AAX33730.1	60678791	8
Periplaneta americana	American cockroach	Per a 7.0102	Aero Insect	Periplaneta Per a 7	IgE plus basophil+ or SPT+	284	AAD19606.1	4378573	7
Periplaneta americana	American cockroach	Per a 7.0101	Aero Insect	Periplaneta Per a 7	IgE plus basophil+ or SPT+	284	CAB38086.1	4468639	7
Periplaneta americana	American cockroach	Per a 6.0101	Aero Insect	Periplaneta Per a 7	IgE plus basophil+ or SPT+	284	ACS14052.1	239740599	11
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 7	IgE plus basophil+ or SPT+	284	P0DSM7.1	1679373733	20
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 9	IgE but no biological test	356	AAT77152.1	50428904	8
Periplaneta americana	American cockroach	Per a 9.0101	Aero Insect	Periplaneta Per a 9	IgE but no biological test	356	ACA00204.1	167782135	9
Periplaneta fuliginosa	Smokybrown cockroach	Unassigned	Aero Insect	Periplaneta Per a 7	IgE plus basophil+ or SPT+	284	AAL86701.1	19310971	7
Perna viridis	Asian green mussell	Unassigned	Food Animal	Perna Tropomyosin	IgE but no biological test	284	AAG08988.1	9954251	7
Persea americana	Avocado	Pers a 1.0101	Food Plant	Persea Pers a 1	IgE but no biological test	326	CAB01591.1	3201547	7
Phalaris aquatica	Canary grass	Unassigned	Aero Plant	Phalaris Pha a 1	IgE but no biological test	20	AAB27445.1	409328	7
Phalaris aquatica	Canary grass	Pha a 1.0101	Aero Plant	Phalaris Pha a 1	IgE but no biological test	269	Q41260.1	2498576	7
Phalaris aquatica	Canary grass	Pha a 5.0101	Aero Plant	Phalaris Pha a 5	IgE but no biological test	320	P56164.1	2498577	7
Phalaris aquatica	Canary grass	Unassigned	Aero Plant	Phalaris Pha a 5	IgE but no biological test	305	P56165.1	2498578	7
Phalaris aquatica	Canary grass	Unassigned	Aero Plant	Phalaris Pha a 5	IgE but no biological test	294	P56166.1	2498579	7
Phalaris aquatica	Canary grass	Unassigned	Aero Plant	Phalaris Pha a 5	IgE but no biological test	175	P56167.1	2498580	7
Phaseolus vulgaris	Kidney bean	Pha v 3.0101	Food Plant	Phaseolus Pha v 3	IgE plus basophil+ or SPT+	115	ADC80502.1	289064177	11
Phaseolus vulgaris	Kidney bean	Pha v 3.0201	Food Plant	Phaseolus Pha v 3	IgE plus basophil+ or SPT+	118	ADC80503.1	289064179	11
Phleum pratense	Common timothy	Phl p 1.0102	Aero Plant	Phleum Phl p 1	IgE plus basophil+ or SPT+	263	CAA55390.1	473360	7
Phleum pratense	Common timothy	Phl p 1.0101	Aero Plant	Phleum Phl p 1	IgE plus basophil+ or SPT+	263	CAA81613.1	3901094	7
Phleum pratense	Common timothy	Phl p 2.0101	Aero Plant	Phleum Phl p 1	IgE plus basophil+ or SPT+	241	1N10_A	28373838	7
Phleum pratense	Common timothy		Aero Plant	Phleum Phl p 1	IgE plus basophil+ or SPT+	240	CAG24374.1	45823012	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 1	IgE plus basophil+ or SPT+	262	2118271A	1582250	10
Phleum pratense	Common timothy	Phl p 11.0101	Aero Plant	Phleum Phl p 11	IgE plus basophil+ or SPT+	143	AAN32987.1	23452313	7
Phleum pratense	Common timothy	Phl p 12.0103	Aero Plant	Phleum Phl p 12	IgE but no biological test	131	CAA70609.1	2415700	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	IgE but no biological test	131	ABG81289.1	110644906	8
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	IgE but no biological test	131	ABG81290.1	110644908	8
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	IgE but no biological test	131	ABG81291.1	110644910	8
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	IgE but no biological test	131	ABG81292.1	110644912	8
Phleum pratense	Common timothy		Aero Plant	Phleum Phl p 12	IgE but no biological test	131	ABG81293.1	110644914	8
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	IgE but no biological test	131	ABG81294.1	110644916	8
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	IgE but no biological test	131	ABG81295.1	110644918	8
Phleum pratense	Common timothy	Phl p 12.0102	Aero Plant	Phleum Phl p 12	IgE but no biological test	131	CAA70608.1	2415698	10
Phleum pratense	Common timothy	Phl p 12.0101	Aero Plant	Phleum Phl p 12	IgE but no biological test	131	CAA54686.1	453976	15
Phleum pratense	Common timothy	Phl p 13.0101	Aero Plant	Phleum Phl p 13	IgE plus basophil+ or SPT+	394	CAB42886.1	4826572	7
Phleum pratense	Common timothy	Phl p 2.0101	Aero Plant	Phleum Phl p 2	IgE but no biological test	122	CAA53529.1	415896	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 3	IgE plus basophil+ or SPT+	100	3FT1_A	283806867	11
Phleum pratense	Common timothy	Phl p 4.0101	Aero Plant	Phleum Phl p 4	IgE plus basophil+ or SPT+	508	CAD54670.2	54144332	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	IgE plus basophil+ or SPT+	500	CAF32567.2	45108973	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	IgE plus basophil+ or SPT+	500	CAF32566.2	45108967	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	IgE plus basophil+ or SPT+	500	CAQ55938.1	189014266	10
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	IgE plus basophil+ or SPT+	500	CAQ55939.1	189014268	10
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	IgE plus basophil+ or SPT+	500	CAQ55940.1	189014270	10
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	IgE plus basophil+ or SPT+	500	CAQ55941.1	189014272	10
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	IgE plus basophil+ or SPT+	500	3TSH_A	405944794	14
Phleum pratense	Common timothy	Phl p 4.0201	Aero Plant	Phleum Phl p 4	IgE plus basophil+ or SPT+	508	CAD54671.2	54144334	15
Phleum pratense	Common timothy	Phl p 5.0101	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	312	CAA52753.1	398830	7
Phleum pratense	Common timothy		Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	257	S32101	422005	7
Phleum pratense	Common timothy		Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	280	S38584	481397	7
Phleum pratense	Common timothy		Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	24	Q7M1L8	75139900	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	285	2023228A	1092249	7

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Phleum pratense	Common timothy	Phl p 5.0202	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	281	CAB05371.1	1684718	7
Phleum pratense	Common timothy	Phl p 5.0104	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	276	CAB05372.1	1684720	7
Phleum pratense	Common timothy	Phl p 5.0102	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	286	CAA50281.1	2398757	7
Phleum pratense	Common timothy	Phl p 5.0105	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	276	AAC16525.1	3135497	7
Phleum pratense	Common timothy	Phl p 5.0106	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	276	AAC16526.1	3135499	7
Phleum pratense	Common timothy	Phl p 5.0107	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	276	AAC16527.1	3135501	7
Phleum pratense	Common timothy	Phl p 5.0108	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	276	AAC16528.1	3135503	7
Phleum pratense	Common timothy		Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	312	AAC25994.1	3309039	7
Phleum pratense	Common timothy	Phl p 5.0203	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	295	AAC25995.1	3309041	7
Phleum pratense	Common timothy	Phl p 5.0206	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	290	AAC25997.1	3309045	7
Phleum pratense	Common timothy	Phl p 5.0207	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	AAC25998.1	3309047	7
Phleum pratense	Common timothy		Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	275	AAK25823.1	13430402	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38384.1	21725606	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38385.1	21725608	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38386.1	21725610	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38387.1	21725612	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38388.1	21725614	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38389.1	21725616	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38390.1	21725618	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38391.1	21725620	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38392.1	21725622	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38393.1	21725624	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38394.1	21725626	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38395.1	21725628	7
Phleum pratense	Common timothy		Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38396.1	21725630	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	287	CAD38397.1	21725632	7
Phleum pratense	Common timothy		Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	102	1L3P_A	28948464	7
Phleum pratense	Common timothy	Phl p 5.0109	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	284	CAD87529.1	29500897	7
Phleum pratense	Common timothy	Phl p 5.0201	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	284	CAA81609.1	2398759	10
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	IgE plus basophil+ or SPT+	309	CCD28287.1	345108717	13
Phleum pratense	Common timothy	Phl p 6.0102	Aero Plant	Phleum Phl p 6	IgE plus basophil+ or SPT+	138	CAA76556.1	3004465	7
Phleum pratense	Common timothy	Phl p 6.0101	Aero Plant	Phleum Phl p 6	IgE plus basophil+ or SPT+	138	CAA76557.1	3004467	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 6	IgE plus basophil+ or SPT+	106	CAA76558.1	3004469	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 6	IgE plus basophil+ or SPT+	111	1NLX_N	28374072	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 6	IgE plus basophil+ or SPT+	110	6TRK_A	1890508764	21
Phleum pratense	Common timothy	Phl p 7.0101	Aero Plant	Phleum Polcalin (Phl p 7)	IgE plus basophil+ or SPT+	78	CAA76887.1	3367732	10
Phodopus sungorus	Siberian hamster	Phod s 1.0101	Aero Plant	Phodopus sungorus lipocalin	IgE plus basophil+ or SPT+	151	AGT28425.1	530376029	16
Phoenix dactylifera	Date palm	Phl p 2.0101	Aero Plant	Phoenix Pho d 2	IgE but no biological test	131	CAD10390.1	21322677	7
Pinus koraiensis		Pin k 2.0101	Food Plant	Pinus koraiensis vicilin Pin k 2.0101	IgE but no biological test	463	AHC94918.1	567773309	15
Pinus pinea	Pine	Unassigned	Food Plant	Pinus pinea albumin AAI	IgE but no biological test	110	CEJ95862.1	749495809	16
Pinus pinea	Pine	Pin p 1.0101	Food Plant	Pinus pinea Pin p 1 2S	IgE plus basophil+ or SPT+	164	CTQ87571.1	916237486	16
Pistacia vera	pistachio	Unassigned	Food Plant	Pistacia 11S globulin	IgE but no biological test	472	ABU42022.1	156001070	9
Pistacia vera	pistachio	Pis v 2.0101	Food Plant	Pistacia 11S globulin	IgE but no biological test	496	ABG73109.1	110349083	10
Pistacia vera	pistachio	Pis v 2.0201	Food Plant	Pistacia 11S globulin	IgE but no biological test	472	ABG73110.1	110349085	10
Pistacia vera	pistachio	Pis v 1.0101	Food Plant	Pistacia Pis v 1 2S albumin	IgE but no biological test	149	ABG73108.1	110349081	10
Pistacia vera	pistachio	Pis v 3.0101	Food Plant	Pistacia Pis v 3 vicilin	IgE but no biological test	519	ABO36677.1	133711974	10
Pistacia vera	pistachio	Pis v 4.0101	Food Plant	Pistacia Pis v 4	IgE but no biological test	230	ABR29644.1	149786150	9
Pisum sativum	Pea	Pis s 1.0102	Food Plant	Pisum Pis s 1	IgE but no biological test	415	CAF25233.1	42414629	7
Pisum sativum	Pea	Pis s 1.0101	Food Plant	Pisum Pis s 1	IgE but no biological test	415	CAF25232.1	42414627	7
Pisum sativum	Pea	Pis s 2.0101	Food Plant	Pisum Pis s 2	IgE but no biological test	613	CAB82855.1	7339551	15
Pisum sativum	Pea	Pis s 3.0101	Food Plant	Pisum sativum Pis s 3	IgE but no biological test	120	AJG44053.1	752855036	17
Pisum sativum	Pea	Unassigned	Food Plant	Pisum sativum Pis s 3	IgE but no biological test	120	A0A158V755.1	1064302992	18
Pisum sativum	Pea	Unassigned	Food Plant	Pisum sativum Pis s 3	IgE but no biological test	119	A0A158V976.1	1064302965	18

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Pisum sativum	Pea	Unassigned	Food Plant	Pisum sativum Pis s 3	IgE but no biological test	95	2N81_A	1026943499	18
Plantago lanceolata	Narrow-leaved plantain	Pla l 1.0101	Aero Plant	Plantago Pla l 1	IgE but no biological test	131	CAC41633.1	14422359	7
Plantago lanceolata	Narrow-leaved plantain	Pla l 1.0102	Aero Plant	Plantago Pla l 1	IgE but no biological test	131	CAC41634.1	14422361	7
Plantago lanceolata	Narrow-leaved plantain	Pla l 1.0103	Aero Plant	Plantago Pla l 1	IgE but no biological test	131	CAC41635.1	14422363	7
Plantago lanceolata	Narrow-leaved plantain	Unassigned	Aero Plant	Plantago Pla l 1	IgE but no biological test	65	CAD80019.1	29163773	7
Platanus orientalis	oriental plane	Pla or 1.0101	Aero Plant	Platanus Pla or 1	IgE but no biological test	170	ABY21305.1	162949336	9
Platanus orientalis	oriental plane	Pla or 2.0101	Aero Plant	Platanus Pla or 2	IgE but no biological test	378	ABY21306.1	162949338	9
Platanus x acerifolia	London plane tree	Pla a 3.0101	Aero Plant	Platanus acerifolia Pla a 3	IgE plus basophil+ or SPT+	93	ALF39466.1	930156468	16
Platanus x acerifolia	London plane tree	Pla a 3.0201	Aero Plant	Platanus acerifolia Pla a 3	IgE plus basophil+ or SPT+	118	ALF00099.1	928541035	17
Platanus x acerifolia	London plane tree	Pla a 1.0101	Aero Plant	Platanus Pla a 1	IgE plus basophil+ or SPT+	179	CAD20556.1	26190140	7
Platanus x acerifolia	London plane tree	Pla a 2.0101	Aero Plant	Platanus Pla a 2	IgE plus basophil+ or SPT+	377	CAE52833.1	49523394	7
Plodia interpunctella	Indian meal moth	Plo i 1.0101	Aero Insect	Plodia Plo i 1 Arginine kinase	IgE plus basophil+ or SPT+	355	CAC85911.1	15886861	7
Plodia interpunctella	Indian meal moth	Plo i 2.0101	Aero Insect	Plodia Plo i 2 thioredoxin	IgE but no biological test	106	CBW45298.1	308193268	12
Poa pratensis	Kentucky bluegrass	Unassigned	Aero Plant	Poa not IUIS Poa p 9 like Poa p 5	IgE but no biological test	373	P22284.1	113560	7
Poa pratensis	Kentucky bluegrass	Unassigned	Aero Plant	Poa not IUIS Poa p 9 like Poa p 5	IgE but no biological test	307	P22286.1	113562	7
Poa pratensis	Kentucky bluegrass	Unassigned	Aero Plant	Poa not IUIS Poa p 9 like Poa p 5	IgE but no biological test	131	A60373	539056	7
Poa pratensis	Kentucky bluegrass	Unassigned	Aero Plant	Poa not IUIS Poa p 9 like Poa p 5	IgE but no biological test	333	P22285.1	113561	7
Poa pratensis	Kentucky bluegrass		Aero Plant	Poa Poa p 1	IgE but no biological test	20	A60372	280414	7
Poa pratensis	Kentucky bluegrass		Aero Plant	Poa Poa p 1	IgE but no biological test	26	F37396	320620	7
Poa pratensis	Kentucky bluegrass	Poa p 1.0101	Aero Plant	Poa Poa p 1	IgE but no biological test	263	CAA10520.1	4090265	7
Poa pratensis	Kentucky bluegrass	Poa p 5.0101	Aero Plant	Poa Poa p 5	IgE but no biological test	303	AAG42254.1	11991227	7
Polistes annularis	Paper wasp	Pol a 5.0101	Venom or Salivary	Polistes Pol 5	IgE plus basophil+ or SPT+	209	AAA29793.1	160780	7
Polistes annularis	Paper wasp	Pol a 1.0101	Venom or Salivary	Polistes Pol a 1 Pol d 1	IgE but no biological test	301	AAD52615.1	5815249	11
Polistes annularis	Paper wasp	Pol a 2.0101	Venom or Salivary	Polistes Pol a 2	IgE but no biological test	367	AAD52616.1	5815251	11
Polistes dominula		Unassigned	Venom or Salivary	Polistes Pol d 3	IgE plus basophil+ or SPT+	775	XP_015174445.1	972185860	19
Polistes dominulus	Paper wasp	Pol d 5.0101	Venom or Salivary	Polistes Pol 5	IgE plus basophil+ or SPT+	227	AAT95010.1	51093377	7
Polistes dominulus	Paper wasp	Pol d 1.0104	Venom or Salivary	Polistes Pol a 1 Pol d 1	IgE but no biological test	316	AAS67044.1	45510893	7
Polistes dominulus	Paper wasp	Pol d 1.0103	Venom or Salivary	Polistes Pol a 1 Pol d 1	IgE but no biological test	316	AAS67043.1	45510891	7
Polistes dominulus	Paper wasp	Pol d 1.0102	Venom or Salivary	Polistes Pol a 1 Pol d 1	IgE but no biological test	316	AAS67042.1	45510889	7
Polistes dominulus	Paper wasp	Pol d 1.0101	Venom or Salivary	Polistes Pol a 1 Pol d 1	IgE but no biological test	337	AAS67041.1	45510887	7
Polistes dominulus	Paper wasp	Pol d 4.0101	Venom or Salivary	Polistes Venom serine protease	IgE but no biological test	277	AAP37412.1	30909091	7
Polistes exclamans	Paper wasp	Pol e 5.0101	Venom or Salivary	Polistes Pol 5	IgE plus basophil+ or SPT+	226	AAT95009.1	51093375	7
Polistes fuscatus	Paper wasp	Pol f 5.0101	Venom or Salivary	Polistes Pol 5	IgE plus basophil+ or SPT+	205	P35780.1	549188	7
Polistes gallicus	Paper wasp	Pol g 5.0101	Venom or Salivary	Polistes Pol 5	IgE plus basophil+ or SPT+	206	P83377.1	25091511	7
Polistes gallicus	Paper wasp	Pol g 1.0101	Venom or Salivary	Polistes Pol a 1 Pol d 1	IgE but no biological test	42	P83542.1	41017429	7
Polybia paulista	wasp	Poly p 1.0101	Venom or Salivary	Polybia Pol p 1.0101 phospholipase	IgE but no biological test	322	A2VBC4.1	166216292	9
Polybia paulista	wasp	Poly p 5.0101	Venom or Salivary	Polybia Pol p 1.0101 phospholipase	IgE but no biological test	302	ADT89774.1	315190620	12
Polybia paulista	wasp	Unassigned	Venom or Salivary	Polybia Poly p 2 hyaluronidase	IgE but no biological test	345	ADL09135.1	302201583	12
Polybia paulista	wasp	Poly p 2.0101	Venom or Salivary	Polybia Poly p 2 hyaluronidase	IgE but no biological test	288	P86687.1	302425085	12
Polybia paulista	wasp	Unassigned	Venom or Salivary	Polybia Poly p 5, Poly s 5 venom allergen	IgE but no biological test	141	ADD63684.1	290792375	11
Polybia paulista	wasp	Poly p 5.0102	Venom or Salivary	Polybia Poly p 5, Poly s 5 venom allergen	IgE but no biological test	207	P86686.1	302595972	12
Polybia scutellaris rioplatensis	Wasp	Unassigned	Venom or Salivary	Polybia Poly p 5, Poly s 5 venom allergen	IgE but no biological test	207	Q7Z156.2	47117356	7
Pontastacus leptodactylus	Danube crayfish	Pon l 4.0101	Food Animal	Pontastacus Pon l 4	IgE but no biological test	192	P05946.1	134309	15
Populus nigra	black poplar	Unassigned	Aero Plant	Pop n 2 profilin	IgE but no biological test	131	QID21357.1	1812187307	21
Portunus pelagicus	blue swimmer crab	Por p 1.0101	Food Animal	Portunus Por p 1 tropomyosin	IgE plus basophil+ or SPT+	284	AGE44125.1	448278534	14
Portunus sanguinolentus	Crab	Unassigned	Food Animal	Portunus Por s and t tropomyosin	IgE but no biological test	284	ABL89183.1	119674937	8
Portunus trituberculatus	Crab	Unassigned	Food Animal	Portunus Por s and t tropomyosin	IgE but no biological test	284	ABS12234.1	151505281	9
Procambarus clarkii	red swamp crayfish	Pro c 1.0101	Food Animal	Pro c 1 tropomyosin	IgE but no biological test	284	ACN87223.1	225348412	10
Procambarus clarkii	red swamp crayfish	Pro c 2.0101	Food Animal	Pro c 2 arginine kinase	IgE but no biological test	357	AFA45339.1	375298901	13
Procambarus clarkii	red swamp crayfish	Pro c 5.0101	Food Animal	Pro c 5 myosin	IgE but no biological test	153	AFP95338.1	401606251	19
Procambarus clarkii	red swamp crayfish	Pro c 8.0101	Food Animal	Pro c 8 TPI	IgE but no biological test	248	AEB54655.1	328900101	19
Prosopis juliflora	mesquite	Pro j 1.0101	Aero Plant	Prosopis juliflora Pro j 1.0101	IgE but no biological test	150	AKV72167.1	914410008	16
Prosopis juliflora	mesquite	Pro j 2.0101	Aero Plant	Prosopis Pro j 2	IgE but no biological test	133	AHY24177.1	625293889	15

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Protortonia cacti	Arthropod	Unassigned	Food Animal	Protortonia	IgE but no biological test	335	BAH59276.1	237769615	11
Prunus armeniaca	Apricot	Unassigned	Food Plant	Pru ar 5	IgE but no biological test	168	AAD32205.1	4887129	7
Prunus armeniaca	Apricot	Pru ar 1.0101	Food Plant	Pru av 1 Pru a 1	IgE plus basophil+ or SPT+	160	AAB97141.1	2677826	7
Prunus armeniaca	Apricot	Unassigned	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	119	ADR66945.1	313575730	12
Prunus armeniaca	Apricot	Unassigned	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	117	ADR66946.1	313575732	12
Prunus armeniaca	Apricot	Pru ar 3.0101	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	117	ADR66947.1	313575734	12
Prunus armeniaca	Apricot	Unassigned	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	117	ADR66948.1	313575736	12
Prunus avium	Cherry	Pru av 1.0101	Food Plant	Pru av 1 Pru a 1	IgE plus basophil+ or SPT+	160	AAC02632.1	1513216	7
Prunus avium	Cherry	Pru av 1.0203	Food Plant	Pru av 1 Pru a 1	IgE plus basophil+ or SPT+	160	AAS47037.1	44409496	7
Prunus avium	Cherry	Pru av 1.0202	Food Plant	Pru av 1 Pru a 1	IgE plus basophil+ or SPT+	160	AAS47036.1	44409474	7
Prunus avium	Cherry	Pru av 1.0201	Food Plant	Pru av 1 Pru a 1	IgE plus basophil+ or SPT+	160	AAS47035.1	44409451	7
Prunus avium	Cherry	Unassigned	Food Plant	Pru av 1 Pru a 1	IgE plus basophil+ or SPT+	159	1H2O_A	159162378	9
Prunus avium	Cherry	Unassigned	Food Plant	Prunus avium Pru av 7.01 Gibberellin	IgE but no biological test	88	XP_021820299.1	1220067778	20
Prunus avium	Cherry	Pru av 3.0101	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	117	AAF26449.1	6715520	7
Prunus avium	Cherry	Unassigned	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	117	ADR66943.1	313575726	12
Prunus avium	Cherry	Unassigned	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	117	ADR66944.1	313575728	12
Prunus avium	Cherry	Pru av 4.0101	Food Plant	Prunus Pru 4 Profilin peach cherry almond	IgE plus basophil+ or SPT+	131	AAD29411.1	4761582	7
Prunus avium	Cherry	Pru av 2.0101	Food Plant	Prunus Pru av 2	IgE but no biological test	245	AAB38064.1	1144346	7
Prunus domestica	Plum	Pru d 3.0101	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	91	P82534.1	9297015	7
Prunus dulcis	Almond	Unassigned	Food Plant	Pru du 10	IgE but no biological test	563	Q945K2.1	75331901	20
Prunus dulcis	Almond	Unassigned	Food Plant	Pru du 8 Antimicrobial protein	IgE but no biological test	264	QDO73345.1	1706883247	20
Prunus dulcis	Almond	Unassigned	Food Plant	Pru du x Prunus dulcis vicilin	IgE but no biological test	547	QFG58557.1	1757285428	20
Prunus dulcis	Almond	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	IgE plus basophil+ or SPT+	241	ACE80974.1	190613941	10
Prunus dulcis	Almond	Pru du 4.0101	Food Plant	Prunus Pru 4 Profilin peach cherry almond	IgE plus basophil+ or SPT+	131	AAL91662.1	24473794	7
Prunus dulcis	Almond	Unassigned	Food Plant	Prunus Pru du 6 Amandin	IgE but no biological test	531	3EHK_A	258588247	11
Prunus dulcis	Almond	Unassigned	Food Plant	Prunus Pru du 6 Amandin	IgE but no biological test	178	AGR27935.1	523916668	15
Prunus dulcis	Almond	Pru du 6.0101	Food Plant	Prunus Pru du 6 Amandin	IgE but no biological test	551	ADN39440.1	307159112	15
Prunus dulcis	Almond	Pru du 6.0201	Food Plant	Prunus Pru du 6 Amandin	IgE but no biological test	504	ADN39441.1	307159114	15
Prunus dulcis	Almond	Unassigned	Food Plant	Prunus Seed allergenic protein 2 (Conglutin gamma)	IgE but no biological test	25	P82952.1	75107131	8
Prunus dulcis x Prunus persica	Plant hybrid	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	IgE plus basophil+ or SPT+	160	ACE80939.1	190613871	10
Prunus dulcis x Prunus persica	Plant hybrid	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	IgE plus basophil+ or SPT+	246	ACE80956.1	190613905	10
Prunus dulcis x Prunus persica	Plant hybrid	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	IgE plus basophil+ or SPT+	246	ACE80958.1	190613909	10
Prunus dulcis x Prunus persica	Plant hybrid	Pru p 2.0201	Food Plant	Prunus persica Pru p 2 IUIS	IgE plus basophil+ or SPT+	246	ACE80957.1	190613907	10
Prunus dulcis x Prunus persica	Plant hybrid	Pru p 2.0101	Food Plant	Prunus persica Pru p 2 IUIS	IgE plus basophil+ or SPT+	246	ACE80959.1	190613911	10
Prunus dulcis x Prunus persica	Plant hybrid	Pru p 2.0301	Food Plant	Prunus persica Pru p 2 IUIS	IgE plus basophil+ or SPT+	242	ACE80955.1	190613903	10
Prunus dulcis x Prunus persica	Plant hybrid	Unassigned	Food Plant	Prunus Pru 4 Profilin peach cherry almond	IgE plus basophil+ or SPT+	131	ACE80972.1	190613937	10
Prunus persica	Peach	Pru p 1.0101	Food Plant	Pru av 1 Pru a 1	IgE plus basophil+ or SPT+	160	ABB78006.1	82492265	7
Prunus persica	Peach	Pru p 1.0301	Food Plant	Pru av 1 Pru a 1	IgE plus basophil+ or SPT+	160	AJE61291.1	748758672	16
Prunus persica	Peach	Pru p 1.0201	Food Plant	Pru av 1 Pru a 1	IgE plus basophil+ or SPT+	160	AJE61290.1	748758670	16
Prunus persica	Peach	Unassigned	Food Plant	Pru p 9 peach a PR-1 protein Cys rich	IgE plus basophil+ or SPT+	161	XP_007199020.1	595790543	20
Prunus persica	Peach	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	IgE plus basophil+ or SPT+	246	P83332.1	25091405	12
Prunus persica	Peach	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	IgE plus basophil+ or SPT+	242	P83335.1	25091406	12
Prunus persica	Peach	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	IgE plus basophil+ or SPT+	246	AEV57471.1	359744030	13
Prunus persica	Peach	Pru p 3.0101	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	91	P81402.1	3287877	7
Prunus persica	Peach	Unassigned	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	117	AAV40850.1	54793477	7
Prunus persica	Peach	Unassigned	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	117	ADR66939.1	313575718	12
Prunus persica	Peach	Unassigned	Food Plant	Prunus Pru 3	IgE plus basophil+ or SPT+	117	AGW21344.1	544369592	15
Prunus persica	Peach	Pru p 4.0101	Food Plant	Prunus Pru 4 Profilin peach cherry almond	IgE plus basophil+ or SPT+	131	CAD37201.1	27528310	7
Prunus persica	Peach	Pru p 4.0201	Food Plant	Prunus Pru 4 Profilin peach cherry almond	IgE plus basophil+ or SPT+	131	CAD37202.1	27528312	7
Prunus persica	Peach	Pru p 7.0101	Food Plant	Prunus Pru p 7 Pru m 7 Peamaclein	IgE plus basophil+ or SPT+	63	P86888.1	408407790	14
Pseudocardium sachalinensis	Mollusc	Unassigned	Food Animal	Pseudocardium tropomyosin	IgE but no biological test	284	BAH10154.1	219806598	10
Punica granatum	Pomegranate	Unassigned	Food Plant	Punica chitinase putative Put g 14	IgE but no biological test	299	G1UH28.1	1679362782	20

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Punica granatum	Pomegranate	Pun g 7	Food Plant	Punica peptide Pommaclein Pun g 7	IgE but no biological test	20	C0HKC0.1	1179881437	18
Punica granatum	Pomegranate	Pun g 1.0101	Food Plant	Punica Pun g 1	IgE but no biological test	120	AHB19227.1	559797767	15
Punica granatum	Pomegranate	Pun g 1.0201	Food Plant	Punica Pun g 1	IgE but no biological test	120	AHB19226.1	559797765	15
Punica granatum	Pomegranate	Pun g 1.0301	Food Plant	Punica Pun g 1	IgE but no biological test	120	AHB19225.1	559797763	15
Pyrus communis	Pear	Pyr c 3.0101	Food Plant	Pyrus LTP Pyr c 3 IUIS	IgE but no biological test	115	AAF26451.1	6715524	11
Pyrus communis	Pear	Unassigned	Food Plant	Pyrus LTP Pyr c 3 IUIS	IgE but no biological test	94	AET05733.1	355525862	13
Pyrus communis	Pear	Unassigned	Food Plant	Pyrus LTP Pyr c 3 IUIS	IgE but no biological test	94	AET05732.1	355525860	13
Pyrus communis	Pear	Unassigned	Food Plant	Pyrus LTP Pyr c 3 IUIS	IgE but no biological test	94	AET05730.1	355525856	13
Pyrus communis	Pear	Pyr c 1.0101	Food Plant	Pyrus Pyr c 1	IgE plus basophil+ or SPT+	159	O65200.1	14423877	9
Pyrus communis	Pear	Pyr c 4.0101	Food Plant	Pyrus Pyr c 4	IgE plus basophil+ or SPT+	131	AAD29410.1	4761580	7
Pyrus communis	Pear	Pyr c 5.0101	Food Plant	Pyrus Pyr c 5	IgE plus basophil+ or SPT+	308	AAC24001.1	3243234	7
Quercus alba	Oak	Que a 1.0201	Aero Plant	Quercus Que a 1 Que m 1	IgE plus basophil+ or SPT+	159	ABZ81045.1	167472847	10
Quercus alba	Oak	Que a 1.0401	Aero Plant	Quercus Que a 1 Que m 1	IgE plus basophil+ or SPT+	160	ABZ81047.1	167472851	10
Quercus alba	Oak	Que a 1.0301	Aero Plant	Quercus Que a 1 Que m 1	IgE plus basophil+ or SPT+	160	ABZ81046.1	167472849	10
Quercus ilex	holly oak	Unassigned	Aero Plant	Que i 1	IgE but no biological test	159	QGS84240.1	1780564817	21
Quercus mongolica		Unassigned	Aero Plant	Quercus Que a 1 Que m 1	IgE plus basophil+ or SPT+	160	AUH28179.1	1316209040	19
Rana esculenta	Frog	Ran e 1.0101	Food Animal	Rana Ran e 1	IgE but no biological test	110	CAC83046.1	20796729	7
Rana esculenta	Frog	Ran e 2.0101	Food Animal	Rana Ran e 2	IgE but no biological test	109	CAC95152.1	20797081	7
Rana sp. CH-2001	Frog	Unassigned	Food Animal	Rana Ran e 1	IgE but no biological test	110	CAC83047.1	20796733	7
Rana sp. CH-2001	Frog	Unassigned	Food Animal	Rana Ran e 2	IgE but no biological test	109	CAC95153.1	20797085	7
Rastrelliger kanagurta		Ras k 1.0101	Food Animal	Rastrelliger Ras k 1 parvalbumin	IgE but no biological test	109	ANW10058.1	1046811129	18
Rattus norvegicus	Rat		Aero Animal	Rattus Rat n 1	IgE but no biological test	181	P02761.1	127533	7
Rattus norvegicus	Rat		Aero Animal	Rattus Rat n 1	IgE but no biological test	181	Q63213	81890324	7
Rattus norvegicus	Rat	Rat n 1.0101	Aero Animal	Rattus Rat n 1	IgE but no biological test	177	AAA41198.1	204261	15
Rhizopus oryzae	Fungus	Unassigned	Aero Fungi	Rhizopus Rhi o 1.0101	IgE plus basophil+ or SPT+	401	AIS82657.1	695094784	16
Rhodotorula mucilaginosa	Fungus	Rho m 1.0101	Aero Fungi	Rhodotorula Rho m 1	IgE but no biological test	439	AAP30720.1	30314940	11
Rhodotorula mucilaginosa	Fungus	Rho m 2.0101	Aero Fungi	Rhodotorula Rho m 2	IgE but no biological test	342	AAT37679.1	54654335	7
Ricinus communis	Castor bean	Ric c 1.0101	Food Plant	Ricinus Ric c 1	IgE plus basophil+ or SPT+	258	CAA38097.1	21068	15
Rubus idaeus	raspberry	Rub i 1.0101	Food Plant	Rubus Rub i 1	IgE but no biological test	137	ABG54495.1	110180525	8
Rubus idaeus	raspberry	Rub i 3.0101	Food Plant	Rubus Rub i 3	IgE but no biological test	117	ABG54494.1	110180523	8
Saccostrea glomerata		Sac g 1	Food Animal	Saccostrea glomerata Sac g 1	IgE but no biological test	284	AVD53650.1	1343184138	19
Salmo salar	Salmon	Unassigned	Food Animal	Sal s 4	IgE but no biological test	284	NP_001117128.1	185132405	20
Salmo salar	Salmon	Unassigned	Food Animal	Sal s 6	IgE plus basophil+ or SPT+	1449	XP_014059932.1	929097893	21
Salmo salar	Salmon	Unassigned	Food Animal	Sal s 6	IgE plus basophil+ or SPT+	1449	XP_014048044.1	929075511	21
Salmo salar	Salmon	Unassigned	Food Animal	Sal s 6	IgE plus basophil+ or SPT+	1356	XP_013998297.1	929244458	21
Salmo salar	Salmon	Unassigned	Food Animal	Sal s 6	IgE plus basophil+ or SPT+	1356	XP_014033985.1	929312453	21
Salmo salar	Salmon		Food Animal	Salmo Sal s 1	IgE plus basophil+ or SPT+	108	Q91483.3	18281421	7
Salmo salar	Salmon	Unassigned	Food Animal	Salmo Sal s 1	IgE plus basophil+ or SPT+	109	ACI68103.1	209734468	10
Salmo salar	Salmon	Sal s 1.0101	Food Animal	Salmo Sal s 1	IgE plus basophil+ or SPT+	109	CAA66403.1	1322183	15
Salmo salar	Salmon	Unassigned	Food Animal	Salmo Sal s 2 enolase	IgE plus basophil+ or SPT+	432	CBL79146.1	385145180	13
Salmo salar	Salmon	Sal s 2.0101	Food Animal	Salmo Sal s 2 enolase	IgE plus basophil+ or SPT+	434	ACH70931.1	197632415	15
Salmo salar	Salmon	Sal s 3.0101	Food Animal	Salmo Sal s 3 aldolase	IgE plus basophil+ or SPT+	363	ACH70901.1	197632355	13
Salmo salar	Salmon	Unassigned	Food Animal	Salmo Sal s 3 aldolase	IgE plus basophil+ or SPT+	363	CBL79147.1	385145176	13
Salmo salar	Salmon	Unassigned	Food Animal	Salmon Sal s 7	IgE but no biological test	381	ACH70914.1	197632381	20
Salmo salar	Salmon	Unassigned	Food Animal	Salmon Sal s 8 Triosphosphate isomerase	IgE but no biological test	247	ACM09737.1	221222152	20
Salsola kali	Thistle	Unassigned	Aero Plant	Salsola kali Sal k 6.01	IgE plus basophil+ or SPT+	381	AHL24657.1	589912883	15
Salsola kali	Thistle	Sal k 6.0101	Aero Plant	Salsola kali Sal k 6.01	IgE plus basophil+ or SPT+	401	ARS33724.1	1194995727	18
Salsola kali	Thistle	Sal k 1.0201	Aero Plant	Salsola pectin methylesterase Sal k 1.01 & 1.02	IgE but no biological test	362	AAT99258.1	51242679	8
Salsola kali	Thistle	Sal k 1.0302	Aero Plant	Salsola pectin methylesterase Sal k 1.01 & 1.02	IgE but no biological test	339	AAX11261.1	59895728	8
Salsola kali	Thistle	Sal k 1.0301	Aero Plant	Salsola pectin methylesterase Sal k 1.01 & 1.02	IgE but no biological test	339	AAX11262.1	59895730	8
Salsola kali	Thistle	Unassigned	Aero Plant	Salsola pectin methylesterase Sal k 1.01 & 1.02	IgE but no biological test	339	ACO34813.1	225810597	10

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Salsola kali	Thistle	Sal k 1.0101	Aero Plant	Salsola Sal k 1	IgE plus basophil+ or SPT+	42	P83181.1	25090947	10
Salsola kali	Thistle	Sal k 3.0101	Aero Plant	Salsola Sal k 3 pollen allergen	IgE plus basophil+ or SPT+	757	ACO34814.1	225810599	10
Salsola kali	Thistle	Sal k 4.0101	Aero Plant	Salsola Sal k 4 profilin	IgE plus basophil+ or SPT+	133	ACS34771.1	239916566	11
Salsola kali	Thistle	Unassigned	Aero Plant	Salsola Sal k 4 profilin	IgE plus basophil+ or SPT+	133	AHL24658.1	589912885	15
Salsola kali	Thistle	Sal k 4.0201	Aero Plant	Salsola Sal k 4 profilin	IgE plus basophil+ or SPT+	133	ADK22841.1	300490499	15
Salsola kali	Thistle	Sal k 6.0101	Aero Plant	Salsola Sal k 5	IgE but no biological test	151	ADK22842.1	300490501	15
Salvelinus fontinalis	Brook trout	Unassigned	Food Animal	Salvelinus parvalbumin	IgE but no biological test	109	CAX32966.1	288557438	11
Salvelinus fontinalis	Brook trout	Unassigned	Food Animal	Salvelinus parvalbumin	IgE but no biological test	108	CAX32967.1	288557440	11
Sarcoptes scabiei	mite	Unassigned	Venom or Salivary	Sarcoptes scabiei paramyosin	IgE but no biological test	828	SHD75397.1	1109598142	18
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes Apolipoprotein Ssag1.2	IgE but no biological test	330	AAO15613.1	27462848	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes cysteine protease CO8	IgE but no biological test	340	AAS93669.1	46406002	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes cysteine proteases FO4	IgE but no biological test	338	AAS93674.1	46406012	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes cysteine proteases FO4	IgE but no biological test	339	AAS93675.1	46406014	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes cysteine proteases FO4	IgE but no biological test	273	AAS93676.1	46406016	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes Glutathione S-transferase Mu	IgE but no biological test	219	AAO15607.1	27462836	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes Glutathione S-transferase Mu	IgE but no biological test	219	AAX37321.1	60920770	7
Sarcoptes scabiei type suis	Scabies mite	Unassigned	Aero Mite	Sarcoptes Apolipoprotein Ssag1.2	IgE but no biological test	310	AGM48615.1	507480520	15
Sardinops sagax	South American pilchard	Sar sa 1.0101	Food Animal	Sardinops Sar sa 1 parvalbumin	IgE but no biological test	109	CAQ68366.1	193247972	10
Scapharca broughtonii	Clam	Unassigned	Food Animal	Scapharca tropomyosin	IgE but no biological test	284	BAH10151.1	219806592	10
Schedonorus arundinaceus	Tall fescue	Unassigned	Aero Plant	Festuca group 1 allergen	IgE but no biological test	35	Q7M1Y1	75139991	7
Schedonorus arundinaceus	Tall fescue	Unassigned	Venom or Salivary	Festuca group 1 allergen	IgE but no biological test	17	C37396	320610	7
Schedonorus arundinaceus	Tall fescue	Unassigned	Aero Plant	Festuca group 1 allergen	IgE but no biological test	20	D37396	320611	7
Schistosoma japonicum	Schistosoma	Unassigned	Protozoan	Schistosoma profilin	IgE but no biological test	129	AAP06493.1	29841461	7
Schistosoma japonicum	Schistosoma	Unassigned	Protozoan	Schistosoma tegumental antigen	IgE but no biological test	191	AAC67308.1	2739154	7
Schizophyllum commune H4-8	Mushroom	Sch c 1.0101	Aero Fungi	Schizophyllum Sch c 1	IgE but no biological test	576	XP_003030591.1	302681819	15
Scolopendra subspinipes		Unassigned	Venom or Salivary	Scolopendra venom Sco m 5	IgE plus basophil+ or SPT+	210	QEA69430.1	1721459568	20
Scomber japonicus	Chub mackerel	Sco j 1	Food Animal	Scomber Parvalbumin Sco s 1	IgE but no biological test	109	BAC66618.1	29420793	7
Scomber scombrus	Atlantic mackerel	Sco s 1.0101	Food Animal	Scomber Parvalbumin Sco s 1	IgE but no biological test	109	CAX32965.1	288557436	11
Scylla paramamosain	green mud crab	Scy p 8.0101	Food Animal	Scy p 8	IgE but no biological test	248	APP94292.1	1122816254	18
Scylla paramamosain	green mud crab	Scy p 2.0101	Food Animal	Scylla arginine kinase Scy p 2	IgE but no biological test	357	AFA45340.1	375298903	13
Scylla paramamosain	green mud crab	Unassigned	Food Animal	Scylla arginine kinase Scy p 2	IgE but no biological test	357	5ZHQ_A	1597623661	20
Scylla paramamosain	green mud crab	Unassigned	Food Animal	Scylla paramamosain filamin C	IgE plus basophil+ or SPT+	847	QFI57017.1	1759300245	20
Scylla paramamosain	green mud crab	Scy p 4.0101	Food Animal	Scylla paramamosain Scy p 4 Sarc Ca Binding Ptn	IgE but no biological test	193	AFJ80778.1	387571563	18
Scylla serrata	giant mud crab	Unassigned	Food Animal	Scylla arginine kinase Scy p 2	IgE but no biological test	356	C9EIP1.1	1679377517	20
Scylla serrata	giant mud crab	Unassigned	Food Animal	Scylla sp. (mud crab) tropomyosin	IgE but no biological test	284	ABS12233.1	151505279	9
Sebastes marinus	ocean perch (red fish)	Seb m 1.0101	Food Animal	Sebastes Seb m 1	IgE but no biological test	109	CAQ72968.1	242253959	11
Sebastes marinus	ocean perch (red fish)	Seb m 1.0201	Food Animal	Sebastes Seb m 1	IgE but no biological test	110	CAQ72969.1	242253961	11
Secale cereale	Rye	Sec c 20.0101	Food Plant	Secale Sec c 20	IgE plus basophil+ or SPT+	23	AAB37403.1	1699225	15
Secale cereale	Rye	Sec c 20.0201	Food Plant	Secale Sec c 20	IgE plus basophil+ or SPT+	29	AAB37406.1	1699228	15
Secale cereale	Rye	Sec c 38.0101	Aero Plant	Secale Sec c 38.01	IgE plus basophil+ or SPT+	26		75198875	7
Secale cereale	Rye	Unassigned	Aero Plant	Secale Sec c 4	IgE but no biological test	520	CAH92630.1	55859456	7
Secale cereale	Rye	Unassigned	Aero Plant	Secale Sec c 4	IgE but no biological test	518	CAH92627.1	55859454	7
Secale cereale	Rye	Unassigned	Aero Plant	Secale Sec c 5	IgE but no biological test	16	Q7M263	75140047	7
Secale cereale	Rye	Sec c 5.0101	Food Plant	Secale Sec c 5	IgE but no biological test	292	CBG76811.1	332205751	12
Sepia esculenta	cuttlefish	Unassigned	Food Animal	Sepia tropomyosin	IgE but no biological test	284	BAE54429.1	83715928	7
Sepioteuthis lessoniana	bigfin reef squid	Unassigned	Food Animal	Sepioteuthis tropomyosin	IgE but no biological test	284	BAE54430.1	83715930	7
Sesamum indicum	Sesame	Unassigned	Food Plant	Sesamum seed maturation-like protein	IgE but no biological test	345	ACB55491.1	171853012	16
Sesamum indicum	Sesame	Ses i 1.0101	Food Plant	Sesamum Ses i 1	IgE but no biological test	153	AAK15088.1	13183175	7
Sesamum indicum	Sesame	Unassigned	Food Plant	Sesamum Ses i 1	IgE but no biological test	153	ACI41244.1	209165427	10
Sesamum indicum	Sesame	Ses i 2.0101	Food Plant	Sesamum Ses i 2	IgE but no biological test	148	AAD42943.1	5381323	7
Sesamum indicum	Sesame	Ses i 3.0101	Food Plant	Sesamum Ses i 3	IgE but no biological test	585	AAK15089.1	13183177	7
Sesamum indicum	Sesame	Ses i 4.0101	Food Plant	Sesamum Ses i 4 oleosin	IgE but no biological test	166	AAG23840.1	10834827	13

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Sesamum indicum	Sesame	Unassigned	Food Plant	Sesamum Ses i 5 oleosin	IgE but no biological test	145	ACH85188.1	198250343	10
Sesamum indicum	Sesame	Ses i 5.0101	Food Plant	Sesamum Ses i 5 oleosin	IgE but no biological test	145	AAD42942.1	5381321	15
Sesamum indicum	Sesame	Ses i 6.0101	Food Plant	Sesamum Ses i 6	IgE plus basophil+ or SPT+	459	AAD42944.1	5381325	15
Sesamum indicum	Sesame	Ses i 7.0101	Food Plant	Sesamum Ses i 7	IgE but no biological test	497	AAK15087.1	13183173	15
Simulium vittatum	black fly	Unassigned	Venom or Salivary	Simulium vit antigen 5 by similarity	IgE but no biological test	277	ACH56843.1	197260686	10
Simulium vittatum	black fly	Unassigned	Venom or Salivary	Simulium vit antigen 5 by similarity	IgE but no biological test	277	ACH56844.1	197260688	10
Sinapis alba	White mustard		Food Plant	Sinapis Sin a 1.01	IgE plus basophil+ or SPT+	145	CAA62909.1	1009434	7
Sinapis alba	White mustard		Food Plant	Sinapis Sin a 1.01	IgE plus basophil+ or SPT+	145	CAA62910.1	1009436	7
Sinapis alba	White mustard		Food Plant	Sinapis Sin a 1.01	IgE plus basophil+ or SPT+	145	CAA62911.1	1009438	7
Sinapis alba	White mustard		Food Plant	Sinapis Sin a 1.01	IgE plus basophil+ or SPT+	145	CAA62912.1	1009440	7
Sinapis alba	White mustard		Food Plant	Sinapis Sin a 1.01	IgE plus basophil+ or SPT+	145	CAA62908.1	1009442	7
Sinapis alba	White mustard	Sin a 1.0101	Food Plant	Sinapis Sin a 1.01	IgE plus basophil+ or SPT+	145	P15322.2	51338758	7
Sinapis alba	White mustard	Sin a 2.0101	Food Plant	Sinapis Sin a 2.01 11S globulin	IgE plus basophil+ or SPT+	510	AAX77383.1	62240390	7
Sinapis alba	White mustard	Unassigned	Food Plant	Sinapis Sin a 2.01 11S globulin	IgE plus basophil+ or SPT+	523	AAX77384.1	62240392	7
Sinapis alba	White mustard	Sin a 3.0101	Food Plant	Sinapis Sin a 3.01 LTP	IgE but no biological test	92	ABU95411.1	156778059	12
Sinapis alba	White mustard	Sin a 4.0101	Food Plant	Sinapis Sin a 4.01 profilin	IgE but no biological test	131	ABU95412.1	156778061	12
Sinonovacula constricta	Chinese razor clam	Unassigned	Food Animal	Sinonovacula tropomyosin [Song paper]	IgE but no biological test	284	ABU53681.1	156145810	15
Solanum lycopersicum (Lycopersic	Tomato	Sola l 6.0101	Food Plant	Solanum lycopersicum Sola l 6	IgE plus basophil+ or SPT+	96	NP_001306883.1	985801667	17
Solanum lycopersicum (Lycopersic	Tomato	Sola l 7.0101	Food Plant	Solanum lycopersicum Sola l 7	IgE plus basophil+ or SPT+	115	XP_004229753.1	460367790	16
Solanum lycopersicum (Lycopersic	Tomato	Sola l 1.0101	Food Plant	Solanum Sola l 1 profilin (Lyc e 1)	IgE plus basophil+ or SPT+	131	CAD10377.1	16555787	7
Solanum lycopersicum (Lycopersic	Tomato		Food Plant	Solanum Sola l 1 profilin (Lyc e 1)	IgE plus basophil+ or SPT+	131	AAL29690.1	17224229	7
Solanum lycopersicum (Lycopersic	Tomato	Sola l 2.0101	Food Plant	Solanum Sola l 2 Beta-fructofuranosidase (Lyc e 2)	IgE but no biological test	553	AAL75449.1	18542113	7
Solanum lycopersicum (Lycopersic	Tomato	Sola l 2.0201	Food Plant	Solanum Sola l 2 Beta-fructofuranosidase (Lyc e 2)	IgE but no biological test	636	AAL75450.1	18542115	7
Solanum lycopersicum (Lycopersic	Tomato	Unassigned	Food Plant	Solanum Sola l 3 LTP (Lyc e 3)	IgE plus basophil+ or SPT+	114	CAJ19705.1	71360928	7
Solanum lycopersicum (Lycopersic	Tomato	Sola l 3.0101	Food Plant	Solanum Sola l 3 LTP (Lyc e 3)	IgE plus basophil+ or SPT+	114	AAB42069.1	1816535	15
Solanum lycopersicum (Lycopersic	Tomato	Sola l 4.0101	Food Plant	Solanum Sola l 4 PR-10 (Lyc e 4)	IgE but no biological test	178	CAA75803.1	2887310	14
Solanum lycopersicum (Lycopersic	Tomato	Sola l 4.0201	Food Plant	Solanum Sola l 4 PR-10 (Lyc e 4)	IgE but no biological test	160	AHC08074.1	565380268	15
Solanum lycopersicum (Lycopersic	Tomato	Unassigned	Food Plant	Solanum Sola l 4 PR-10 (Lyc e 4)	IgE but no biological test	160	AHC08073.1	565380238	15
Solanum melongena	Eggplant	Unassigned	Food Plant	Solanum melalongena Sola m 1	IgE plus basophil+ or SPT+	159	QEQ43417.1	1743129991	20
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum profilin-like	IgE but no biological test	131	ABA81885.1	77416979	7
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum profilin-like	IgE but no biological test	131	ABB16985.1	77999277	7
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum Sola t 1	IgE plus basophil+ or SPT+	386	CAA31575.1	21510	7
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum Sola t 1	IgE plus basophil+ or SPT+	386	CAA27571.1	21512	7
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum Sola t 1	IgE plus basophil+ or SPT+	386	CAA27588.1	21514	7
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum Sola t 1	IgE plus basophil+ or SPT+	386	AAA33819.1	169500	7
Solanum tuberosum	Potato		Food Plant	Solanum Sola t 1	IgE plus basophil+ or SPT+	386	P15476.2	158517845	9
Solanum tuberosum	Potato	Sola t 2.0101	Food Plant	Solanum Sola t 2	IgE plus basophil+ or SPT+	188	P16348.1	124148	7
Solanum tuberosum	Potato		Food Plant	Solanum Sola t 3	IgE plus basophil+ or SPT+	222	P20347.3	20141344	7
Solanum tuberosum	Potato	Sola t 3.0101	Food Plant	Solanum Sola t 3	IgE plus basophil+ or SPT+	186	AAB63099.1	1575306	15
Solanum tuberosum	Potato	Sola t 4.0101	Food Plant	Solanum Sola t 4	IgE plus basophil+ or SPT+	221	BAA04149.1	994779	15
Solen strictus	Gould's razor shell	Unassigned	Food Animal	Solen tropomyosin	IgE but no biological test	284	BAH10156.1	219806602	10
Solenopsis geminata	Tropical Fire Ant	Sol g 4.0101	Venom or Salivary	Solenopsis Sol g 4 Sol i 4	IgE but no biological test	137	AAF65312.1	7638028	7
Solenopsis geminata	Tropical Fire Ant		Venom or Salivary	Solenopsis Sol g 4 Sol i 4	IgE but no biological test	137	AAF65313.1	7638030	7
Solenopsis invicta	Red fire ant		Venom or Salivary	Solenopsis Sol g 4 Sol i 4	IgE but no biological test	137	AAC97370.1	4038411	7
Solenopsis invicta	Red fire ant	Sol i 4.0101	Venom or Salivary	Solenopsis Sol g 4 Sol i 4	IgE but no biological test	137	AAC97369.1	4038409	11
Solenopsis invicta	Red fire ant	Unassigned	Venom or Salivary	Solenopsis Sol i 1	IgE but no biological test	58	AAB36117.1	1336809	7
Solenopsis invicta	Red fire ant	Unassigned	Venom or Salivary	Solenopsis Sol i 1	IgE but no biological test	25	AAB36119.1	1336811	7
Solenopsis invicta	Red fire ant	Unassigned	Venom or Salivary	Solenopsis Sol i 1	IgE but no biological test	26	AAB36120.1	1336812	7
Solenopsis invicta	Red fire ant	Unassigned	Venom or Salivary	Solenopsis Sol i 1	IgE but no biological test	26	AAB36121.1	1336813	7
Solenopsis invicta	Red fire ant	Sol i 1.0101	Venom or Salivary	Solenopsis Sol i 1	IgE but no biological test	346	AAT95008.1	51093373	7
Solenopsis invicta	Red fire ant	Sol i 2.0101	Venom or Salivary	Solenopsis Sol i and Sol r Venom allergen II	IgE but no biological test	138	P35775.1	549179	7
Solenopsis invicta	Red fire ant	Sol i 3.0101	Venom or Salivary	Solenopsis Venom allergen III	IgE but no biological test	234	AAB65434.1	2293571	11

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Solenopsis richteri	Black fire ant	Sol r 2.0101	Venom or Salivary	Solenopsis Sol i and Sol r Venom allergen II	IgE but no biological test	119	P35776.2	6136162	7
Solenopsis richteri	Black fire ant	Sol r 3.0101	Venom or Salivary	Solenopsis Venom allergen III	IgE but no biological test	211	P35779.2	6136163	7
Solenopsis saevissima	Brazilian fire ant	Unassigned	Venom or Salivary	Solenopsis Sol g 4 Sol i 4	IgE but no biological test	137	ADD74392.1	291092710	12
Sorghum halepense	Johnson grass	Sor h 2.0201	Aero Plant	Sorghum halepens group 2 allergen	IgE but no biological test	121	AIL01319.1	674275735	16
Sorghum halepense	Johnson grass	Sor h 2.0101	Aero Plant	Sorghum halepens group 2 allergen	IgE but no biological test	119	AIL01318.1	674275733	16
Sorghum halepense	Johnson grass	Sor h 1.0101	Aero Plant	Sorghum Sor h 1	IgE but no biological test	266	AIL01316.1	674275729	15
Sorghum halepense	Johnson grass	Sor h 1.0201	Aero Plant	Sorghum Sor h 1	IgE but no biological test	266	AIL01317.1	674275731	15
Sorghum halepense	Johnson grass	Sor h 13.0101	Aero Plant	Sorghum Sor h 13	IgE but no biological test	422	AIL01320.1	674275737	15
Sorghum halepense	Johnson grass	Sor h 13.0201	Aero Plant	Sorghum Sor h 13	IgE but no biological test	410	AIL01321.1	674275739	15
Stachybotrys chartarum	Fungus	Sta 3.0101	Aero Fungi	Stachybotrys Sta c 3	IgE but no biological test	144	ACT37324.1	253970748	14
Staphylococcus aureus	Bacteria	Unassigned	Bacteria skin	Staphylococcus enterotoxin SEA	IgE plus basophil+ or SPT+	233	1ESF_B	1633233	9
Staphylococcus aureus	Bacteria	Unassigned	Bacteria skin	Staphylococcus enterotoxin SEB	IgE plus basophil+ or SPT+	254	CAJ43561.1	83308249	9
Staphylococcus aureus	Bacteria	Unassigned	Bacteria skin	Staphylococcus enterotoxin SEC	IgE but no biological test	266	P34071.1	462026	9
Staphylococcus aureus	Bacteria	Unassigned	Bacteria skin	Staphylococcus enterotoxin SED	IgE but no biological test	258	P20723.1	119654	9
Staphylococcus aureus	Bacteria	Unassigned	Bacteria skin	Staphylococcus enterotoxin TSST 1	IgE plus basophil+ or SPT+	234	P06886.1	136457	9
Stemphylium callistephi	Fungus	Unassigned	Aero Fungi	Stemphylium major allergen alt a1-like	IgE but no biological test	137	AAT66567.1	49476467	7
Stemphylium sp. CID1012	Fungus	Unassigned	Aero Fungi	Stemphylium major allergen alt a1-like	IgE but no biological test	137	ABS29033.1	152060760	9
Stemphylium vesicarium	Fungus	Unassigned	Aero Fungi	Stemphylium major allergen alt a1-like	IgE but no biological test	137	AAT66566.1	49476465	7
Strongyloides stercoralis	Parasitic nematode	Unassigned	Worm (parasite)	Strongyloides L3NieAg.01	IgE plus basophil+ or SPT+	229	AAD46493.1	5669875	7
Suidasia medanensis	Mite	Unassigned	Aero Mite	Suidasia putative not official Sui m 2	IgE but no biological test	141	AAS75831.1	45738062	7
Sus scrofa	Pig	Unassigned	Aero Animal	Sus Porcine Pepsin	IgE but no biological test	385	P00791.3	118572685	11
Sus scrofa	Pig	Sus s 1.0101	Aero Animal	Sus s serum albumin	IgE but no biological test	605	AAA30988.1	164318	17
Sus scrofa	Pig	Unassigned	Aero Animal	Sus s serum albumin	IgE but no biological test	607	NP_001005208.1	52353352	17
Syringa vulgaris	Lilac	Syr v 3.0101	Aero Plant	Syringa Syr v 3	IgE but no biological test	81	P58171.1	14423847	7
Syringa vulgaris	Lilac	Syr v 1.0101	Aero Plant	Syringa Syr v I	IgE but no biological test	145	S43242	631911	7
Syringa vulgaris	Lilac	Syr v 1.0102	Aero Plant	Syringa Syr v I	IgE but no biological test	145	S43243	631912	7
Syringa vulgaris	Lilac	Syr v 1.0103	Aero Plant	Syringa Syr v I	IgE but no biological test	145	S43244	631913	7
Tabanus yao	Horse Fly	Tab y 1.0101	Venom or Salivary	Tabanus Tab y 1 Apyrase	IgE plus basophil+ or SPT+	554	ADX78255.1	323473390	12
Tabanus yao	Horse Fly	Tab y 2.0101	Venom or Salivary	Tabanus Tab y 2 Hyaluronidase	IgE but no biological test	349	ADM18346.1	304273371	12
Tabanus yao	Horse Fly	Tab y 5.0101	Venom or Salivary	Tabanus Tab y 5	IgE but no biological test	256	ADM18345.1	304273369	12
Tenebrio molitor	Yellow mealworm	Unassigned	Food insect	Tenebrio molitor tropomyosin mealworm	IgE plus basophil+ or SPT+	284	QBM01048.1	1591440921	20
Thaumetopoea pityocampa	Pine moth	Tha p 1.0101	Contact	Thaumetopoea Tha p 1 full length	IgE but no biological test	126	ADK47876.1	301030229	12
Thaumetopoea pityocampa	Pine moth	Tha p 2.0101	Contact	Thaumetopoea Tha p 2	IgE but no biological test	115	P86360.1	408387552	14
Thaumetopoea pityocampa	Pine moth	Unassigned	Contact	Thaumetopoea Tha p 2	IgE but no biological test	104	CEE03319.1	1056731906	18
Thaumetopoea solitaria		Unassigned	Contact	Thaumetopoea Tha p 2	IgE but no biological test	100	CEE03318.1	1056731899	18
Theragra chalcogramma	Alaska pollock	Unassigned	Food Animal	Theragra parvalbumin	IgE plus basophil+ or SPT+	109	AAK63089.1	14531020	7
Theragra chalcogramma	Alaska pollock	Unassigned	Food Animal	Theragra parvalbumin	IgE plus basophil+ or SPT+	109	AAK63088.1	14531018	7
Thunnus albacares	Yellowfin tuna	Unassigned	Food Animal	Thunnus Thu a 2 enolase	IgE plus basophil+ or SPT+	12	P86978.1	576011132	15
Thunnus albacares	Yellowfin tuna	Thu a 2.0101	Food Animal	Thunnus Thu a 2 enolase	IgE plus basophil+ or SPT+	432	I0J1J1.1	576011129	15
Thunnus albacares	Yellowfin tuna	Unassigned	Food Animal	Thunnus Thu a 3 aldolase	IgE plus basophil+ or SPT+	364	CAX62602.1	291195949	12
Thunnus albacares	Yellowfin tuna	Thu a 3.0101	Food Animal	Thunnus Thu a 3 aldolase	IgE plus basophil+ or SPT+	37	P86979.1	576011088	15
Todarodes pacificus	Japanese flying squid	Unassigned	Food Animal	Todarodes Tod p 1	IgE but no biological test	284	BAE54431.1	83715932	7
Trachurus japonicus	Japanese horse mackerel	Unassigned	Food Animal	Trachurus parvalbumin	IgE but no biological test	107	BAE46763.1	77799800	7
Tresus keenae	clam	Unassigned	Food Animal	Tresus tropomyosin	IgE but no biological test	284	BAH10155.1	219806600	10
Triatoma protracta	Western conenose	Tria p 1.0101	Venom or Salivary	Triatoma Tria p 1	IgE but no biological test	169	AAF07903.2	15426413	7
Trichophyton rubrum	Fungus	Tri r 2.0101	Contact	Trichophyton (Arthroderma) Tri r 2	IgE plus basophil+ or SPT+	412	AAD52013.1	5813790	7
Trichophyton rubrum	Fungus	Tri r 4.0101	Contact	Trichophyton tri 4 allergen (Arthroderma)	IgE plus basophil+ or SPT+	726	AAD52012.1	5813788	7
Trichophyton schoenleinii	Fungus	Unassigned	Contact	Trichophyton (Arthroderma) Tri r 2	IgE plus basophil+ or SPT+	405	Q8J077.1	74663809	12
Trichophyton schoenleinii	Fungus	Unassigned	Contact	Trichophyton tri 4 allergen (Arthroderma)	IgE plus basophil+ or SPT+	726	CAD23374.1	23894227	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 14 LTP_amylase inhibitor	IgE plus basophil+ or SPT+	113	P24296.2	417370	11
Triticum aestivum	Wheat	Tri a 40.0101	Aero Plant	Triticum aestivum Tri a 40	IgE but no biological test	143	CAA42453.1	21711	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum aestivum Tri a 40	IgE but no biological test	143	ACG59281.1	195957140	10
Triticum aestivum	Wheat	Tri a 41.0101	Aero Plant	Triticum aestivum Tri a 41	IgE but no biological test	60	AKJ77988.1	827354845	16

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Triticum aestivum	Wheat	Tri a 42.0101	Aero Plant	Triticum aestivum Tri a 42	IgE but no biological test	76	AKJ77986.1	827354790	16
Triticum aestivum	Wheat	Tri a 43.0101	Aero Plant	Triticum aestivum Tri a 43	IgE but no biological test	108	AKJ77987.1	827354822	16
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum aestivum Tri a 44	IgE but no biological test	94	CAI64398.1	66840998	7
Triticum aestivum	Wheat	Tri a 44.0101	Aero Plant	Triticum aestivum Tri a 44	IgE but no biological test	107	AKJ77990.1	827354912	16
Triticum aestivum	Wheat	Tri a 45.0101	Aero Plant	Triticum aestivum Tri a 45	IgE but no biological test	89	AKJ77985.1	827354784	16
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	307	CAA35238.1	21673	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	286	CAA25593.1	21755	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	296	CAA26383.1	21757	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	286	CAA26384.1	21761	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	313	CAA26385.1	21765	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	318	AAA34275.1	170710	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	291	AAA34276.1	170712	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	313	AAA34279.1	170718	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	286	AAA34280.1	170720	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	262	AAA34281.1	170722	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	297	AAA34282.1	170724	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	282	AAA34283.1	170726	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	186	AAA34284.1	170728	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	259	BAA12318.1	1304264	7
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum Bakers asthma allergen #4	IgE but no biological test	27	P81496.1	3913017	7
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum flour Glutathione Transferase	IgE plus basophil+ or SPT+	222	ACE82289.1	190684057	11
Triticum aestivum	Wheat	Tri a 19.0101	Food Plant	Triticum omega-5 gliadin Tri a 19	IgE plus basophil+ or SPT+	439	BAE20328.1	73912496	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum omega-5 gliadin Tri a 19	IgE plus basophil+ or SPT+	359	CAR82265.1	208605344	10
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum omega-5 gliadin Tri a 19	IgE plus basophil+ or SPT+	272	CAR82266.1	208605346	10
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum omega-5 gliadin Tri a 19	IgE plus basophil+ or SPT+	346	CAR82267.1	208605348	10
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum omega-5 gliadin Tri a 19	IgE plus basophil+ or SPT+	366	BAN29067.1	508732623	15
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum putative leucine-rich repeat protein	IgE but no biological test	137	CAI64397.1	66840996	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum serine carboxypeptidase II	IgE but no biological test	260	CAI64396.1	66840994	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum serine carboxypeptidase II	IgE but no biological test	444	P08819.2	125987805	10
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Thaumatin-like	IgE but no biological test	173	P27357.1	135917	12
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 12	IgE but no biological test	131	ACE82291.1	190684061	11
Triticum aestivum	Wheat	Tri a 12.0103	Food Plant	Triticum Tri a 12	IgE but no biological test	131	CAA61945.2	548948852	14
Triticum aestivum	Wheat	Tri a 12.0101	Food Plant	Triticum Tri a 12	IgE but no biological test	131	CAA61943.2	548948848	15
Triticum aestivum	Wheat	Tri a 12.0102	Food Plant	Triticum Tri a 12	IgE but no biological test	131	CAA61944.2	548948850	15
Triticum aestivum	Wheat	Tri a 12.0104	Food Plant	Triticum Tri a 12	IgE but no biological test	131	CAQ57979.1	207366248	15
Triticum aestivum	Wheat	Tri a 15.0101	Aero Plant	Triticum Tri a 15	IgE but no biological test	121	CBA13560.1	283465829	11
Triticum aestivum	Wheat	Tri a 17.0101	Food Plant	Triticum Tri a 17	IgE plus basophil+ or SPT+	509	6GER_A	1540347225	19
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	IgE plus basophil+ or SPT+	302	AAA34272.1	170702	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	IgE plus basophil+ or SPT+	291	AAA34274.1	170708	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	IgE plus basophil+ or SPT+	251	AAA34288.1	170736	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	IgE plus basophil+ or SPT+	327	AAA34289.1	170738	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	IgE plus basophil+ or SPT+	279	BAA11251.1	1063270	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	IgE plus basophil+ or SPT+	285	CAI78902.1	62484809	7
Triticum aestivum	Wheat	Tri a 20.0101	Food Plant	Triticum Tri a 20	IgE plus basophil+ or SPT+	279	BAN29066.1	508732621	15
Triticum aestivum	Wheat	Tri a 21.0101	Food Plant	Triticum Tri a 21 alpha, beta-gliadin	IgE but no biological test	281	CAY54134.1	283476402	11
Triticum aestivum	Wheat	Tri a 25.0101	Aero Plant	Triticum Tri a 25	IgE but no biological test	125	CAB96931.1	8980491	15
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	IgE plus basophil+ or SPT+	830	CAA43331.1	21743	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	IgE plus basophil+ or SPT+	648	CAA31396.1	21751	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	IgE plus basophil+ or SPT+	660	CAA26847.1	21779	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	IgE plus basophil+ or SPT+	39	CAA24934.1	21793	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	IgE plus basophil+ or SPT+	705	CAA43361.1	22090	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	IgE plus basophil+ or SPT+	815	AAB02788.1	170743	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	IgE plus basophil+ or SPT+	838	CAA27052.1	736319	7

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Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	IgE plus basophil+ or SPT+	101	CAA24933.1	897811	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 26	IgE plus basophil+ or SPT+	794	BAN29068.1	508732625	15
Triticum aestivum	Wheat	Tri a 26.0101	Food Plant	Triticum Tri a 26	IgE plus basophil+ or SPT+	848	CAA31395.4	288860106	15
Triticum aestivum	Wheat	Tri a 26.0201	Food Plant	Triticum Tri a 26	IgE plus basophil+ or SPT+	795	AAZ23584.1	71084277	15
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 27.0101 Thiol reductase	IgE but no biological test	203	BAC76688.1	30793446	7
Triticum aestivum	Wheat	Tri a 28.0101	Food Plant	Triticum Tri a 28	IgE but no biological test	119	CAI84642.1	66841026	7
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum Tri a 29	IgE plus basophil+ or SPT+	145	CAA35598.1	21701	7
Triticum aestivum	Wheat	Tri a 29.0101	Aero Plant	Triticum Tri a 29	IgE plus basophil+ or SPT+	120	CAZ76052.1	253783731	11
Triticum aestivum	Wheat	Tri a 29.0201	Aero Plant	Triticum Tri a 29	IgE plus basophil+ or SPT+	120	CBA13559.1	283465827	11
Triticum aestivum	Wheat	Tri a 30.0101	Aero Plant	Triticum Tri a 30	IgE plus basophil+ or SPT+	168	CAA35597.1	21713	7
Triticum aestivum	Wheat	Tri a 31.0101	Aero Plant	Triticum Tri a 31	IgE but no biological test	253	CAC14917.1	11124572	7
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum Tri a 32 Peroxiredoxin	IgE plus basophil+ or SPT+	218	ACE82290.1	190684059	11
Triticum aestivum	Wheat	Tri a 32.0101	Aero Plant	Triticum Tri a 32 Peroxiredoxin	IgE plus basophil+ or SPT+	218	Q6W8Q2.1	75324900	14
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum Tri a 33 Serine protease inhibitor	IgE but no biological test	399	CAA72273.1	1885350	7
Triticum aestivum	Wheat	Tri a 33.0101	Aero Plant	Triticum Tri a 33 Serine protease inhibitor	IgE but no biological test	398	CAB52710.1	5734506	15
Triticum aestivum	Wheat	Tri a 34.0101	Aero Plant	Triticum Tri a 34 GAPDH	IgE but no biological test	337	CAZ76054.1	253783729	11
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	IgE but no biological test	307	CAA31685.1	21773	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	IgE but no biological test	356	CAA30570.1	21783	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 36	IgE but no biological test	304	AAA34285.1	170730	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 36	IgE but no biological test	323	AAA34286.1	170732	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 36	IgE but no biological test	244	AAA34287.1	170734	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	IgE but no biological test	373	O22116	75317968	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	IgE but no biological test	229	CAA59338.1	886963	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	IgE but no biological test	261	CAA59339.1	886965	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	IgE but no biological test	276	CAA59340.1	886967	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	IgE but no biological test	285	O22108	75219081	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	IgE but no biological test	326	CAI79052.1	62550933	7
Triticum aestivum	Wheat	Tri a 36.0101	Food Plant	Triticum Tri a 36	IgE but no biological test	369	AEH31546.1	335331566	12
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 36	IgE but no biological test	283	BAN29069.1	508732627	15
Triticum aestivum	Wheat	Tri a 37.0101	Food Plant	Triticum Tri a 37 alpha purothionin	IgE but no biological test	137	CAA65313.1	4007850	14
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum Tri a 39 serine proteinase inhibitor-lik	IgE but no biological test	84	ABS58503.1	154101366	10
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum Tri a 39 serine proteinase inhibitor-lik	IgE but no biological test	84	P82977.2	122065237	11
Triticum aestivum	Wheat	Tri a 39.0101	Aero Plant	Triticum Tri a 39 serine proteinase inhibitor-lik	IgE but no biological test	84	CCK33471.1	403213259	14
Triticum aestivum	Wheat	Tri tu 14	Food Plant	Triticum Tri tu 14	IgE plus basophil+ or SPT+	115	CAH69206.1	84617221	19
Triticum monococcum subsp. aegilopoides		Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	293	APY24042.1	1137166044	18
Triticum turgidum subsp. durum	Wheat	Unassigned	Food Plant	Triticum aestivum Tri a 40	IgE but no biological test	143	CAA34709.1	21916	7
Triticum turgidum subsp. durum	Wheat	Unassigned	Aero Plant	Triticum Tri a 29	IgE plus basophil+ or SPT+	145	CAA39099.1	21920	7
Triticum turgidum subsp. durum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	IgE but no biological test	295	CAA36063.1	21926	7
Triticum turgidum subsp. durum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	IgE but no biological test	285	CAA44473.1	21930	7
Triticum urartu	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	IgE plus basophil+ or SPT+	296	AAA34290.1	170740	7
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyr p 1	IgE but no biological test	336	ABM53753.1	121296504	9
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyr p 20	IgE but no biological test	357	QOI58528.1	1914565355	21
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyr p 7	IgE but no biological test	212	ABM53750.1	121296498	9
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyr p 7	IgE but no biological test	207	ABM53755.1	121296508	9
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Blo-t-5-like loose group	IgE but no biological test	135	AAX34057.1	60679590	9
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Blo-t-5-like loose group	IgE but no biological test	128	AAX34058.1	60679592	9
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Blo-t-5-like loose group	IgE but no biological test	138	AAX34059.1	60679594	9
Tyrophagus putrescentiae	Dust mite	Tyr p 28.0101	Aero Mite	Tyrophagus putrescentiae Tyr p 28	IgE but no biological test	659	AOD75395.1	1055365842	17
Tyrophagus putrescentiae	Dust mite	Tyr p 35.0101	Aero Mite	Tyrophagus putrescentiae Tyr p 35	IgE but no biological test	486	AOD75396.1	1055365860	17
Tyrophagus putrescentiae	Dust mite	Tyr p 36.0101	Aero Mite	Tyrophagus putrescentiae Tyr p 36	IgE but no biological test	131	AOD75399.1	1055365943	17
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Tyr p 10 tropomyosin	IgE but no biological test	284	ABQ96644.1	148615631	9

Species	Common	IUISÂ Allergen	Type	Group	Allergenicity	Length	Accession	GI#	1stÂ Version
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Tyr p 10 tropomyosin	IgE but no biological test	201	ABU97479.1	156938915	9
Tyrophagus putrescentiae	Dust mite	Tyr p 10.0101	Aero Mite	Tyrophagus Tyr p 10 tropomyosin	IgE but no biological test	284	AAT40866.1	48249227	9
Tyrophagus putrescentiae	Dust mite	Tyr p 13.0101	Aero Mite	Tyrophagus Tyr p 13	IgE but no biological test	131	AAU11502.1	51860756	7
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Tyr p 13	IgE but no biological test	130	ABM53751.1	121296500	9
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Tyr p 13	IgE but no biological test	131	ABU97480.1	156938917	9
Tyrophagus putrescentiae	Dust mite	Tyr p 2.0101	Aero Mite	Tyrophagus Tyr p 2	IgE but no biological test	141	CAA73221.1	2182106	7
Tyrophagus putrescentiae	Dust mite	Tyr p 34.0101	Aero Mite	Tyrophagus Tyr p 24 Troponin C	IgE but no biological test	153	ACL36923.1	219815476	11
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Tyr p 8	IgE plus basophil+ or SPT+	218	AGG10560.1	452215228	14
Ulocladium alternariae	Fungus	Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	138	AAT66607.1	49476547	7
Ulocladium atrum	Fungus	Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	137	AAT66609.1	49476551	7
Ulocladium capsicum		Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	134	ACH42744.1	197110100	10
Ulocladium chartarum	Fungus	Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	137	AAT66610.1	49476553	7
Ulocladium dauci		Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	137	ACJ65836.1	215399749	11
Ulocladium microsporum		Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	138	AGC36415.1	441467668	18
Ulocladium oudemansii		Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	137	ACH42743.1	197110098	10
Ulocladium oudemansii		Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	138	ACI44002.1	209363467	10
Ulocladium sp. CID262		Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	137	ABQ59259.1	148357923	9
Ulocladium sp. CID598		Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	137	ABQ59258.1	148357921	9
Ulocladium sp. CID68		Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	137	ABQ59255.1	148357915	9
Ulocladium sp. HSAUP1144		Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	138	ACJ54737.1	213958825	11
Ulocladium sp. XGZ-2008		Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	137	ACH42741.1	197110094	10
Ulocladium sp. XGZ-2011a		Unassigned	Aero Fungi	Ulocladium alt a1-like	IgE but no biological test	137	AGC36416.1	441467671	18
Urochloa mutica		Unassigned	Aero Plant	Uro m 1 beta expansin	IgE but no biological test	262	QCB92083.1	1618848552	20
Vachellia farnesiana		Unassigned	Aero Plant	Acacia (Vachellia) Aca f 1	IgE but no biological test	150	AKV72166.1	914410006	17
Vachellia farnesiana		Unassigned	Aero Plant	Acacia (Vachellia) profilin Aca f 2	IgE but no biological test	133	AIV43662.1	701225196	17
Venerupis philippinarum	Clam	Unassigned	Food Animal	Venerupis tropomyosin	IgE but no biological test	284	BAH10157.1	219806573	10
Vespa affinis	Lesser banded hornet	Unassigned	Venom or Salivary	Vespa affinis Phospholipase A1	IgE plus basophil+ or SPT+	334	P0DMB5.1	576011175	15
Vespa affinis	Lesser banded hornet	Unassigned	Venom or Salivary	Vespa affinis Phospholipase A1	IgE plus basophil+ or SPT+	334	P0DMB4.1	576011171	15
Vespa crabro	European hornet	Vesp c 1.0101	Venom or Salivary	Vespa Vesp c 1 phospholipase	IgE but no biological test	301	P0CH87.1	313471397	12
Vespa crabro	European hornet	Vesp c 5.0101	Venom or Salivary	Vespa Vesp c 5 and Vesp m 5	IgE but no biological test	202	P35781.1	549184	7
Vespa crabro	European hornet	Vesp c 5.0102	Venom or Salivary	Vespa Vesp c 5 and Vesp m 5	IgE but no biological test	202	P35782.1	549185	7
Vespa magnifica	Hornet	Unassigned	Venom or Salivary	Vespa magnifica Vesp ma 2 hyaluronidase	IgE plus basophil+ or SPT+	357	CBY83816.1	315133295	12
Vespa magnifica	Hornet	Unassigned	Venom or Salivary	Vespa magnifica Vesp ma 5	IgE plus basophil+ or SPT+	225	CBY93636.1	319801357	12
Vespa mandarinia	Wasp	Vesp m 5.0101	Venom or Salivary	Vespa Vesp c 5 and Vesp m 5	IgE but no biological test	202	P81657.1	6136165	7
Vespa velutina		Unassigned	Venom or Salivary	Vesp v 1	IgE but no biological test	304	C0HLL3.1	1859677007	21
Vespa velutina		Unassigned	Venom or Salivary	Vesp v 5	IgE but no biological test	202	P0DMB9.2	1859630616	21
Vespula flavopilosa	Wasp	Ves f 5.0101	Venom or Salivary	Vespula antigen 5 Ves f, v, s 5	IgE plus basophil+ or SPT+	204	P35783.1	549189	7
Vespula germanica	Wasp	Ves g 5.0101	Venom or Salivary	Vespula antigen 5 Ves f, v, s 5	IgE plus basophil+ or SPT+	204	P35784.1	549190	7
Vespula germanica	Wasp	Unassigned	Venom or Salivary	Vespula antigen 5 Ves f, v, s 5	IgE plus basophil+ or SPT+	204	CAJ28930.1	74035841	7
Vespula germanica	Wasp	Unassigned	Venom or Salivary	Vespula Phospholipase A1- Ves m/v 1	IgE plus basophil+ or SPT+	300	CAJ28931.1	74035843	7
Vespula germanica	Wasp	Unassigned	Venom or Salivary	Vespula Ves v 2	IgE plus basophil+ or SPT+	331	CAL59818.1	116174180	8
Vespula germanica	Wasp	Unassigned	Venom or Salivary	Vespula Ves v 2	IgE plus basophil+ or SPT+	323	CAL59819.1	116174182	8
Vespula maculifrons	Wasp	Ves m 5.0101	Venom or Salivary	Vespula antigen 5 Ves f, v, s 5	IgE plus basophil+ or SPT+	204	P35760.1	549191	7
Vespula maculifrons	Wasp	Unassigned	Venom or Salivary	Vespula antigen 5 Ves f, v, s 5	IgE plus basophil+ or SPT+	227	ABC73068.1	85681830	7
Vespula maculifrons	Wasp	Vesp m 1.0101	Venom or Salivary	Vespula Phospholipase A1- Ves m/v 1	IgE plus basophil+ or SPT+	300	P51528.1	1709545	8
Vespula maculifrons	Wasp	Ves m 2.0101	Venom or Salivary	Vespula Ves m 2 Hyaluronidase	IgE but no biological test	31	P0CH89.1	313118253	12
Vespula pensylvanica	Wasp	Ves p 5.0101	Venom or Salivary	Vespula antigen 5 Ves f, v, s 5	IgE plus basophil+ or SPT+	204	P35785.1	549192	7
Vespula squamosa	Wasp	Ves s 5.0101	Venom or Salivary	Vespula antigen 5 Ves f, v, s 5	IgE plus basophil+ or SPT+	205	P35786.1	549193	7
Vespula squamosa	Wasp	Ves s 1.0101	Venom or Salivary	Vespula Ves s 1 phospholipase	IgE but no biological test	298	P0CH86.1	313471398	12
Vespula vidua	Wasp	Ves vi 5.0101	Venom or Salivary	Vespula antigen 5 Ves f, v, s 5	IgE plus basophil+ or SPT+	206	P35787.1	549194	7
Vespula vulgaris	Wasp	Ves v 5.0101	Venom or Salivary	Vespula antigen 5 Ves f, v, s 5	IgE plus basophil+ or SPT+	227	AAA30333.1	162551	7
Vespula vulgaris	Wasp	Ves v 5	Venom or Salivary	Vespula antigen 5 Ves f, v, s 5	IgE plus basophil+ or SPT+	204	CAB42887.1	4826574	7
Vespula vulgaris	Wasp	Ves v 5	Venom or Salivary	Vespula antigen 5 Ves f, v, s 5	IgE plus basophil+ or SPT+	209	1QNX_A	11514279	7

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Vespula vulgaris	Wasp	Vesp v 1.0101	Venom or Salivary	Vespula Phospholipase A1- Ves m/v 1	IgE plus basophil+ or SPT+	336	AAB48072.1	897647	7
Vespula vulgaris	Wasp		Venom or Salivary	Vespula Ves v 2	IgE plus basophil+ or SPT+	331	P49370.1	1346323	7
Vespula vulgaris	Wasp	Ves v 2.0101	Venom or Salivary	Vespula Ves v 2	IgE plus basophil+ or SPT+	340	CAI77218.1	62147665	7
Vespula vulgaris	Wasp	Unassigned	Venom or Salivary	Vespula Ves v 2	IgE plus basophil+ or SPT+	331	2ATM_A	109157163	8
Vespula vulgaris	Wasp	Ves v 3.0101	Venom or Salivary	Vespula Ves v 3 dipeptidylpeptidase IV	IgE plus basophil+ or SPT+	776	ACA00159.1	167782086	9
Vigna radiata	mung bean	Vig r 1.0101	Food Plant	Vigna Vig r 1 PR 10	IgE but no biological test	155	AAX19889.1	60418924	7
Vigna radiata	mung bean	Vig r 2.0101	Food Plant	Vigna Vig r 2	IgE but no biological test	453	ABG02262.1	108743976	15
Vigna radiata	mung bean	Vig r 2.0201	Food Plant	Vigna Vig r 2	IgE but no biological test	454	ABW23574.1	158251953	15
Vigna radiata	mung bean	Vig r 6.0101	Food Plant	Vigna Vig r 6 Cytokinin-specific binding protein	IgE but no biological test	155	BAA74451.1	4190976	14
Vigna radiata var. radiata	mung bean	Vig r 4.0101	Food Plant	Vigna Vig r 4	IgE but no biological test	272	CAA50008.1	1000708	15
Vigna radiata var. radiata	mung bean	Unassigned	Food Plant	Vigna Vig r 6 Cytokinin-specific binding protein	IgE but no biological test	155	A0A1S3THR8.1	1559988738	20
Vitis sp.	Grape	Unassigned	Food Plant	Vitis Lipid transfer protein P3	IgE but no biological test	91	P80273.2	145559502	8
Vitis sp.	Grape		Food Plant	Vitis Vit v 1 LTP	IgE but no biological test	37	P80274.1	462719	7
Vitis sp.	Grape	Unassigned	Food Plant	Vitis Vit v 1 LTP	IgE but no biological test	38	P33556.1	462717	7
Xiphias gladius	Swordfish	Xip g 1.0101	Food Animal	Xiphias Xip g 1 beta-parvalbumin	IgE but no biological test	109	CAR48256.1	222352960	10
Zea mays	Corn	Unassigned	Aero Plant	Zea group 13 pollen allergen	IgE but no biological test	410	ABD79096.1	89892725	7
Zea mays	Corn	Unassigned	Aero Plant	Zea group 13 pollen allergen	IgE but no biological test	404	ABD79097.1	89892727	7
Zea mays	Corn	Unassigned	Aero Plant	Zea group 13 pollen allergen	IgE but no biological test	411	ABD79098.1	89892729	7
Zea mays	Corn	Zea m 8.0101	Food Plant	Zea mays Zea m 8	IgE but no biological test	278	ACX37090.1	260401081	17
Zea mays	Corn	Unassigned	Food Plant	Zea mays Zea m 8	IgE but no biological test	280	P29022.1	116329	17
Zea mays	Corn	Unassigned	Aero Plant	Zea pollen specific protein	IgE but no biological test	170	2209273A	1588669	7
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 beta-expansin	IgE but no biological test	269	AAO45608.1	28630923	7
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 beta-expansin	IgE but no biological test	269	AAK56124.1	14193761	8
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 beta-expansin	IgE but no biological test	245	2HCZ_X	114794319	8
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 beta-expansin	IgE but no biological test	191	AAA33496.1	293902	11
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	IgE but no biological test	263	ABD79094.1	89892721	7
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	IgE but no biological test	252	ABD79095.1	89892723	7
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	IgE but no biological test	99	ABF81661.1	105969543	8
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	IgE but no biological test	269	ABF81662.1	105969545	8
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	IgE but no biological test	270	Q1ZYQ8.2	115502167	9
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	IgE but no biological test	269	P0C1Y5.1	115502168	9
Zea mays	Corn	Zea m 12.0104	Food Plant	Zea Zea m 12 profilin	IgE but no biological test	131	AAB86960.1	2642324	7
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	IgE but no biological test	131	ABG81312.1	110644952	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	IgE but no biological test	131	ABG81313.1	110644954	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	IgE but no biological test	131	ABG81314.1	110644956	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	IgE but no biological test	131	ABG81315.1	110644958	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	IgE but no biological test	131	ABG81316.1	110644960	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	IgE but no biological test	131	ABG81317.1	110644962	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	IgE but no biological test	130	ABG81318.1	110644964	8
Zea mays	Corn	Zea m 12.0101	Aero Plant	Zea Zea m 12 profilin	IgE but no biological test	131	CAA51718.1	313138	15
Zea mays	Corn	Zea m 12.0102	Aero Plant	Zea Zea m 12 profilin	IgE but no biological test	137	CAA51719.1	313140	15
Zea mays	Corn	Zea m 12.0103	Aero Plant	Zea Zea m 12 profilin	IgE but no biological test	131	CAA51720.1	313142	15
Zea mays	Corn	Zea m 12.0105	Aero Plant	Zea Zea m 12 profilin	IgE but no biological test	131	AAG35601.1	11493677	15
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 12 profilin	IgE but no biological test	132	5FEF_A	1064245368	18
Zea mays	Corn	Zea m 14.0101	Food Plant	Zea Zea m 14	IgE but no biological test	120	AAA33493.1	168576	15
Zea mays	Corn	Zea m 14.0102	Food Plant	Zea Zea m 14	IgE but no biological test	99	AAA33494.1	168578	15
Zea mays	Corn	Zea m 25.0101	Aero Plant	Zea Zea m 25 thioredoxin	IgE but no biological test	128	CAI64400.1	66841002	7
Ziziphus mauritiana	Chinese-date	Ziz m 1.0101	Food Plant	Ziziphus Ziz m 1	IgE plus basophil+ or SPT+	330	AAX40948.1	61225281	7

	F	G	H
1	***Neurospora crassa* protein from Genome**	**Best Allergen overall FASTA or 80mer from public AllergenOnline version 21**	**Overall Conclusion of Risks for cross-reactivity for N crassa protein**
2	>ESA44169.1 enolase [Neurospora crassa OR74A] MPISKIHARYVYDSRGNPTVEVDVVTELGLHRAIVPSGASTGQHEACELRDGDKTKWGGKGVLKAVQNVN EVIGPALIKENIDVKDQSKVDKFLIDLDGTPNKTKLGANAILGVSLAVAKAGAAEKGVPLYAHISDLAGTKKPY VLPVPFMNVLNGGSHAGGRLAFQEFMIVPSAAPTFSEALRQGAEVYQILKSLAKKKYGQSAGNVGDEGGV APDIQNPEEALDLITEAIEKAGYTGQVKIAMDVASSEFYKEDVKKYDLDFKNPESDPSKWLTYEELANLYSEL CKKYPIVSIEDPFAEDDWEAWSYFYKTQDIQIVADDLTVTNPLRIKKAIELKAANALLLKVNQIGTLTESIQAA KDSYADGWGVMVSHRSGETEDVTIADIVVGIRSGQIKTGAPARSERLAKLNQILRIEEELADNAIFAGEKFR KAVEL	gi|83288046|gid|329|Enolase (2-phosphoglycerate dehydra (438) 2533 2963.3 6.7e-160 0.893 0.961 438 gi|13925873|gid|329|enolase [Aspergillus fumigatus] (438) 2523 2951.6 3e-159 0.888 0.961 438 gi|13991101|gid|249|enolase [Penicillium citrinum] (438) 2468 2887.2 1.2e-155 0.865 0.961 438 gi|6015094|gid|491|Enolase (2-phosphoglycerate dehydrat (440) 2413 2822.8 4.5e-152 0.834 0.943 440 gi|14423684|gid|66|Enolase (2-phosphoglycerate dehydrat (438) 2412 2821.7 5.2e-152 0.842 0.938 438 gi|467660|gid|491|enolase; phosphopyruvate hydratase [D (440) 2397 2804.1 4.9e-151 0.832 0.939 440 gi|14585753|gid|1031|enolase [Curvularia lunata] (440) 2238 2618.1 1.1e-140 0.793 0.905 440 gi|30314940|gid|103|enolase [Rhodotorula mucilaginosa] (439) 2154 2519.8 3.4e-135 0.772 0.904 438 gi|232054|gid|396|Enolase 1 (2-phosphoglycerate dehydra (440) 2144 2508.1 1.5e-134 0.763 0.911 438 gi|385145180|gid|1959|enolase [Salmo salar] (432) 1816 2124.5 3.5e-113 0.640 0.849 436 gi|576011129|gid|1955|RecName: Full=Alpha-enolase; AltN (432) 1782 2084.7 5.8e-111 0.628 0.839 436 gi|197632415|gid|1959|enolase 3-2 [Salmo salar] (434) 1771 2071.8 3e-110 0.635 0.836 433 gi|46048765|gid|2710|beta-enolase [Gallus gallus] (434) 1724 2016.8 3.5e-107 0.626 0.822 433 gi|9581744|gid|586|enolase, isoform 1 [Hevea brasiliens (445) 1625 1900.8 1e-100 0.603 0.803 446 gi|14423687|gid|586|Enolase 2 (2-phosphoglycerate dehyd (445) 1609 1882.1 1.1e-099 0.599 0.796 446 gi|1503219495|gid|3047|beta-enolase [Pangasianodon hypo (341) 1417 1659.2 2.9e-087 0.644 0.850 340	Enolase is highly conserved across many fungi at >70% ID, and high to Salmon and Chicken at 65% identity: These high identities and lack of clear clinical reactivity in literature suggests low likelihood of risk
3	>EAA34081.2 60S ribosomal protein L3 [Neurospora crassa OR74A] MSHRKYEAPRHGSLAYLPRKRAARHRGKVKSFPKDDAKKPVHLTAAMGYKAGMTTIVRDLDRPGAKAHK KEVVEAVTIIDTPPMIVVGLVGYIETPRGLRSLTTVWAEHLSDEVKRRFYKNWYKSKKKAFTKYVKKHSDNN GAAITRELERIKKYCTVVRVLAHTQIRKTPLKQKKAHLMEIQINGGSVADKVEFGHGLFEKPVSIDSIFEKDEVI DVIAVTKGHGFTGVTARWGTKKLPRKTHKGLRKVACIGAWHPSHVQWTVARAGQAGYHHRTSVNHKIY RIGKGDAEDSAATEVDVTKKKITPMGGFVRYGEINNDFVMVKGSVPGVKKRVMTLRKSMFVHTSRKALEK VELKWIDTSSEFGHGAEQTPAEKKQFQGTLKKDLAASS	gi|83305621|gid|338|60S ribosomal protein L3 (Allergen (392) 2313 3011.8 1.3e-162 0.849 0.967 392 gi|21215170|gid|338|large subunit ribosomal protein L3 (392) 2302 2997.5 8.4e-162 0.847 0.964 392	The 60S ribosmal protein of *N. crassa* is >90% ID across broad taxonomic fungi. The proteins are not abundant or potent allergens and unlikely to pose a risk of food allergy.
4	>EAA34130.1 HEAT SHOCK 70 KD PROTEIN (HSP70) [Neurospora crassa] MAPAVGIDLGTTYSCVGVFREDRCEIIANDQGNRTTPSFVAFTDTERLVGDAAKNQVAMNPANTVFDAK RLIGRKFSDPEVQADMKHFPFKVIDRGGKPVIQVEFKGETKVFTPEEISAMILQKMKETAEAYLGGTVNNAV VTVPAYFNDSQRQATKDAGLIAGLNVLRIINEPTAAAIAYGLDKKVEGERNVLIFDLGGGTFDVSLLTIEEGIF EVKSTAGDTHLGGEDFDNRLVNHFVQEFKRKHKKDLSTNARALRRLRTACERAKRTLSSSAQTSIEIDSLFEG IDFYTSITRARFEELCQDLFRSTLQPVDRVLTDAKIDKSQVHEIVLVGGSTRIPRIQKLISDYFNGKEPNKSINPD EAVAYGAAVQAAILSGDTSSKSTSEILLLDVAPLSLGIETAGGMMTKLIPRNTTIPTKKSEVFSTFSDNQPGVLI QVYEGERQRTKDNNLLGKFELTGIPPAPRGVPQIEVTFDVDANGIMNVSALEKGTGKTNQITITNDKGRLSK EEIERMLAEAEKFKEEDEAEAKRVAAKNGLESYAYSLRNTLSDSKVDEKLDAADKEKLKSEIDKIVAWLDENQ QATREEYEERQKELEAIANPIMMKFYGAGGAPGGMPGAAPGGFPGGAPGSNDNEGPTVEEVD	gi|729764|gid|519|Heat shock 70 kDa protein (Allergen C (643) 3530 3291.0 3.7e-178 0.845 0.940 647 gi|1055365842|gid|2591|heat shock-like protein [Tyropha (659) 3181 2966.0 4.8e-160 0.747 0.902 655 gi|1561006361|gid|3077|allergen Der p 28 [Dermatophagoi (655) 3092 2883.1 2e-155 0.723 0.895 649 gi|685432788|gid|2076|Der f 28 allergen [Dermatophagoid (654) 3050 2844.0 3e-153 0.715 0.892 648 gi|442565876|gid|2076|heat shock protein 70 [Dermatopha (659) 2757 2571.2 4.7e-138 0.763 0.901 578 gi|14423733|gid|250|Heat shock 70 kDa protein (Allergen (503) 2682 2502.7 3e-134 0.864 0.961 487 gi|94468818|gid|2708|heat shock cognate 70 [Aedes aegyp (655) 2633 2455.8 1.2e-131 0.652 0.868 615 gi|465797105|gid|2027|allergen [Malassezia sympodialis (773) 941 879.6 7.8e-044 0.302 0.631 653 gi|28564467|gid|2027|putative heat shock protein [Malas (773) 935 874.0 1.6e-043 0.302 0.629 653 gi|14423730|gid|61|Heat shock 70 kDa protein (Allergen (152) 762 720.9 5.3e-035 0.778 0.908 153	Heat Shock protein 70 of *N. crassa* is >90% identical across 100 taxa of fungi. Since clinical reactivity is not broad, it is unlikely to represent a risk of cross-reactive allergy
5	>EAA27250.2 cytochrome c [Neurospora crassa OR74A]MGFSAGDSKKGANLFKTRCAQCHTLEEGGGNKIGPALHGLFGRKTGSVDGYAYTDANKQKGIT WDENTLFEYLENPKKYIPGTKMAFGGLKKDKDRNDIITFMKEATA	gi|14585755|gid|1033|cytochrome c [Curvularia lunata] (108) 617 823.6 1e-040 0.822 0.916 107	Cytochrome c of *N. crassa* is approximately 85% identical to homologous proteins over 100 organisms: It is hhly unlikely to represent a risk of cross-reactive food allergy.
6	>EAA35936.1 hypothetical protein [Neurospora crassa] MKHLAAYLLLTLGGNTAPSAADVKAVLESVGIEADSERLDKLISELEGKDLNELIAEGSSKLASVPSGGAAAP AAGGAAAAAGGAAEEKKEEKVEEKEESDEDMGFGLFD	gi|1173071|gid|62|RecName: Full=60S acidic ribosomal pr (113) 546 526.5 3.6e-024 0.805 0.903 113 gi|1850540|gid|62|ribosomal P2 phosphoprotein [Alternar (113) 544 524.6 4.6e-024 0.805 0.894 113 gi|19879657|gid|543|60S acidic ribosomal protein P2 [Fu (109) 541 522.0 6.4e-024 0.809 0.927 110 gi|83305635|gid|331|60S acidic ribosomal protein P2 (Al (111) 524 506.1 4.9e-023 0.793 0.901 111 gi|6686524|gid|331|rAsp f 8 [Aspergillus fumigatus] (111) 508 491.2 3.3e-022 0.766 0.910 111 gi|5777795|gid|520|minor allergen, ribosomal protein P2 (111) 475 460.5 1.7e-020 0.714 0.884 112 gi|59894749|gid|848|60S acidic ribosomal P1 phosphoprot (107) 229 231.9 9.3e-008 0.459 0.688 109 gi|371537645|gid|1983|60S acidic ribosomal phosphoprote (107) 217 220.7 3.9e-007 0.439 0.682 107 gi|1350779|gid|73|60S acidic ribosomal protein P1 (Alle (110) 189 194.6 1.1e-005 0.429 0.634 112 gi|240254706|gid|1608|seed biotinylated protein 68 kDa (643) 104 108.6 0.69 0.275 0.583 91	The 60S ribosomal protein of *N. crassa* is >65% identifcal to 100 proteins by BLAST across broad taxa. It is unlikely to pose a risk of food allergy.
7	>EAA35058.1 hypothetical protein [Neurospora crassa] MSNSLEQLKA TGTVVVCDSG DFATMAKYKP QDATTNPSLI LAASKKPEYG ALLDAAIADA KKGPGSPEEK VDAALDYLLV QFGKKILEIV PGKVSTEVDA ALSFDTKASV DKALHIIKLY EAEGISKDRI LIKIASTWEG IKAAEILQRD HGINCNLTLM FSLTQAIAAA EAGAFLISPF VGRILDWFKA HTGKNYSKEE DPGVASVKTI FNYYKKFGYK TIVMGASFRN IGEITELAGC DYLTISPNLL EELLNSDAPV PQKLNAADAA SLSIEKKTVI NSEPTEREDE NEDQMAVEKL REGISKEAAD AVTLKEIIKQ KLAE	gi|619498167|gid|2243|transaldolase [Fusarium prolifera (323) 1647 1877.4 2.1e-099 0.805 0.929 323 gi|300679427|gid|2262|transaldolase [Penicillium chryso (324) 1572 1792.1 1.2e-094 0.755 0.919 322 gi|301015198|gid|2236|transaldolase [Cladosporium clado (325) 1498 1708.0 5.6e-090 0.724 0.888 322 gi|2498577|gid|219|Major pollen allergen Pha a 5.1 prec (320) 90 107.4 0.79 0.253 0.506 154 gi|2266625|gid|595|group V allergen [Holcus lanatus] (264) 88 105.7 0.99 0.247 0.463 190 gi|18093971|gid|482|group 5 isoallergen [Dactylis glome (265) 88 105.7 0.99 0.251 0.482 191	Transaldolase of *N. crassa* is > 80% over 100 diverse species. It is highly unlikely to pose a risk of food allergy.
8	>EAA29752.2 L-xylulose reductase [Neurospora crassa OR74A] MQAVRTYKASTTCSPLTRRHLPICISSLPLFSKPQHNQPRTFSTTILTKPQPHRQPKPTPYKPKFQTATMASTT KGNAIPTASKLSDLFSLKGKVVVITGASGPRGMGIEAARGCAEMGASVAITYASRADGAQKNVAELEKEYG IKAKAYKLNVADYAECEKLVKDVIADFGQIDAFIANAGATAKSGVLDGSKEEWDRVIETDLNGTAYCAKAV GPHFKERGRGSFVITSSISGHIANYPQEQTSYNVAKAGCIHMARSLANEWRDFARVNSISPGYIDTGLSDFV DQKTQDLWKSMIPLGRNGDAKELKGAYVYLVSDASSYTTGADLIDGGYTVR	gi|37780015|gid|799|NADP-dependent mannitol dehydrog (267) 1391 323.6 7.7e-090 0.789 0.917 265 gi|118595439|gid|783|Probable NADP-dependent mannito (266) 1297 302.2 2.2e-083 0.711 0.905 263 gi|37780013|gid|783|NADP-dependent mannitol dehydrog (266) 1296 302.0 2.5e-083 0.714 0.905 262 gi|666431137|gid|321|allergen Asp F7 [Aspergillus fu (270) 96 28.4 0.57 0.230 0.493 148 gi|83300389|gid|321|Allergen Asp f 7 precursor (270) 95 28.2 0.67 0.230 0.486 148	Xylose reductase of *N. crassa* is >80% identical to 100 proteins and organisms. It is highly unlikely to pose a risk of food allergy.
9	>EAA31448.1 predicted protein [Neurospora crassa] MSTAELATSYAAILADDGVEITADKIQTIIKAAKIEDVEPIWASLFAKALEGKDVKDLLSNVGSGGAAAAPA AAGAAAAGGAAEEAKAEEKVEEKEESDEDMGFGLFD	gi|371537645|gid|1983|60S acidic ribosomal phosphopr (107) 515 109.2 3.5e-026 0.771 0.936 109 gi|59894749|gid|848|60S acidic ribosomal P1 phosphop (107) 508 107.9 8.9e-026 0.739 0.892 111 gi|1350779|gid|73|60S acidic ribosomal protein P1 (A (110) 486 103.6 1.8e-024 0.745 0.855 110 gi|83305635|gid|331|60S acidic ribosomal protein P2 (111) 259 59.5 3.4e-011 0.509 0.722 108 gi|19879657|gid|543|60S acidic ribosomal protein P2 (109) 258 59.3 3.7e-011 0.495 0.729 107 gi|5777795|gid|520|minor allergen, ribosomal protein (111) 256 58.9 5e-011 0.537 0.768 95 gi|6686524|gid|331|rAsp f 8 [Aspergillus fumigatus] (111) 252 58.1 8.6e-011 0.500 0.722 108 gi|1850540|gid|62|ribosomal P2 phosphoprotein [Alter (113) 229 53.6 2e-009 0.459 0.697 109 gi|1173071|gid|62|RecName: Full=60S acidic ribosomal (113) 226 53.1 2.9e-009 0.450 0.697 109	This 60S ribosomal protein of *N. crassa* is >70% ID to 100 protein and organisms, and is unlikely to pose a risk of food allergy.

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10	>EAA36577.3 serine protease p2 [Neurospora crassa OR74A] MRGLLALSLAACAAAAPAVSHESIHGDAAPILSSSNAEVVPNSYIIKFKKHVTDDKISDHHTWIQKIHSSRMD LKKRSQIPMVDDVFRGLKHTYKIGQDFMGYSGHFDEDTIEAVRRHPDVEYIERDSIVHTMSVSEDVDSEGKG DSDIEKSAPWGLARISHRDTLSFATFNKYLYAAEGGEGVDAYVIDTGTNVEHVDFEGRAKWGKTIPNGDA DVDGNGHGTHCSGTIAGKKYGVAKKASVYAVKVLRSNGSGTMADVVAGVEWAAKSHLEQVKAAKDGK RKGFKGSVANMSLGGGKTQALDDTVNAAVSVGIHFAVAAGNDNADACNYSPAAAAKAVTVGASAIDDS RAYFSNYGKCTDIFAPGLSILSTWIGSKYATNTISGTSMASPHICGLLAYYLSLQPSSDSEYSLATISPEKMKAN LLKIATVGALSDMPRDTPNLLAWNGGGCSNYSAIVDAGSYKATPKAQSDKISSVSELEKAIEHDYEVISGKVV KGVSSLSDKAEKLSEKIHDMVEEELKEFLEEIAH	i|739057410|gid|2857|vacuolar serine protease, part (386) 1983 452.5 2.9e-128 0.760 0.928 387 gi|60116876|gid|1227|vacuolar serine protease [David (518) 1962 447.6 1.1e-126 0.656 0.849 535 gi|458118|gid|243|alkaline serine protease Pen c2 [(457) 1945 443.9 1.3e-125 0.697 0.861 468 gi|2143220|gid|318|cellular serine proteinase [Asper (495) 1925 439.4 3.2e-124 0.646 0.848 500 gi|193507493|gid|2241|subtilisin-like serine proteas (506) 1922 438.7 5.3e-124 0.665 0.842 505 gi|636530596|gid|3038|subtilisin-like serine proteas (507) 1895 432.6 3.5e-122 0.646 0.844 514 gi|12005497|gid|243|vacuolar serine protease [Penici (503) 1785 408.0 8.9e-115 0.664 0.842 512 gi|148361511|gid|1376|vacuolar serine protease [Clad (388) 1745 399.2 3.1e-112 0.700 0.881 387 gi|12005501|gid|243|vacuolar serine protease [Penici (358) 1703 389.8 1.9e-109 0.721 0.873 362 gi|14215732|gid|243|vacuolar serine protease [Penici (494) 1685 385.7 4.7e-108 0.635 0.847 509 gi|7963902|gid|243|allergen Pen n 18 [Penicillium ch (494) 1681 384.8 8.7e-108 0.636 0.844 508 gi|289172|gid|318|serine protease (533) 1554 356.3 3.5e-099 0.676 0.866 448 gi|54654335|gid|833|vacuolar serine protease [Rhodot (342) 1337 308.0 7.9e-085 0.624 0.832 346 gi|74663809|gid|313|RecName: Full=Subtilisin-like pr (405) 726 171.2 1.4e-043 0.433 0.702 379 gi|23894244|gid|313|tri m 2 allergen [Arthroderma be (404) 720 169.8 3.6e-043 0.433 0.691 379 gi|23894240|gid|313|tri m 2 allergen [Arthroderma be (292) 713 168.4 6.9e-043 0.453 0.707 287 gi|5813790|gid|313|Tri r 2 allergen [Trichophyton ru (412) 715 168.7 7.9e-043 0.403 0.696 392 gi|3549630|gid|2227|alkaline protease, partial [Aspe (341) 424 103.7 2.5e-023 0.425 0.710 362 gi|2295|gid|2227|uncleaved alkaline protease (ALP) [(403) 424 103.6 3.1e-023 0.400 0.678 423 gi|74665726|gid|317|Allergen Asp fl 1 (403) 421 103.0 4.9e-023 0.416 0.690 423 gi|129235|gid|317|Oryzin precursor (Alkaline protein (403) 421 103.0 4.9e-023 0.416 0.690 423 gi|294441150|gid|2457|extracellular alkaline serine (403) 421 103.0 4.9e-023 0.410 0.691 424 gi|21069093|gid|244|alkaline serine protease [Penici (398) 369 91.3 1.5e-019 0.379 0.665 427 gi|4587983|gid|244|Pen c 1; alkaline serine protease (397) 362 89.8 4.5e-019 0.381 0.666 428 gi|6684758|gid|244|allergen Pen n 13 [Penicillium ch (397) 359 89.1 7.2e-019 0.383 0.664 428 gi|267048|gid|1174|RecName: Full=Subtilisin Savinase (269) 295 74.9 8.8e-015 0.384 0.673 263 gi|1225905|gid|1175|prepro AprM [Bacillus sp.] (361) 267 68.5 1e-012 0.327 0.628 309 gi|135016|gid|1171|RecName: Full=Subtilisin Carlsber (379) 247 64.0 2.4e-011 0.320 0.588 369 gi|11127680|gid|1171|subtilisin precursor [Bacillus (374) 244 63.4 3.7e-011 0.314 0.591 369 gi|807698|gid|466|pre-pro-cucumisin [Cucumis melo] (731) 117 34.7 0.032 0.272 0.583 151 + 122 35.8 0.015 0.359 0.538 78	These serine protaease of *N. crassa* is highly conserved across some fungial species: Fusarium, Aspergillus, Pennecillium, Aspergillus at >65% ID. Since they are not known to be broadly cross-reactivity, it is unlikely to pose a risk of food allergy.
11	>EAA27626.1 hypothetical protein [Neurospora crassa] MSSNVFVELK TPVTGTYKQP TGLFINNEFV EGVDKKTFEV INPATEEVIC SVHEATEKDV DIAVAAARKA FEGVWRDVTP QQRGIYLLKL ADLLEKNLDL LAAVESLDNG KSITMARGDV GAVVGTIRYY GGWADKIEGK TIDISPDSFH YTRQEPLGVC GQIIPWNFPL LMLAWKVGPA LATGNTIVMK TAEQTPLSAL VFAQFVKEAG FPPGVLNIIS GFGRIAGAAM ASHMDIDKVA FTGSTMVGRQ IMKAAAESNL KKVTLELGGK SPNIIFNDAD IDQAIDWVNF GIYFNHGQTC CAGSRVYVQE GIYDKFVAAF KQRAQQNKVG DPFHDETFQG PQVSQLQYDR IMGYIKAGKE EGATVETGGE RHGDKGYFIQ PTIFTNVRHD MKIMKEEIFG PVCAVAKFST EEEVIKLGND SNYGLAAAVH TKDLNTAIRV SNHLRAGTVW VNTYNALHHQ LPFGGYKESG IGRELGEAAL ANYTQCKSVA IKLN	gi|76666769|gid|518|aldehyde dehydrogenase (NAD+) [Davi (496) 2558 3339.3 7.7e-181 0.760 0.928 487 gi|76666767|gid|65|aldehyde dehydrogenase (NAD+) [Alter (497) 2520 3289.6 4.5e-178 0.742 0.922 488 gi|1055365860|gid|2592|aldehyde dehydrogenase-like prot (486) 1605 2092.9 2e-111 0.516 0.777 475	Aldehyde dehydronase of *N. crassa* is >80% identical to 100 orgnaisms and proteins. Therefore it is unlikely to pose a risk of cross- reactivity.
12	>ESA43621.1 alcohol dehydrogenase I, variant [Neurospora crassa OR74A] MPQFEIPEQQWAQVVEKKGGPVVFKQIPVQKPGPDEVLINVKYSGVCHTDLHAMKGDWPLATKMPLVG GHEGAGVVVAKGELVTEVEVGDHAGIKWLNGSCLACSFCMQADEPLCPHALLSGYTVDGSFQQYAIAKA AHVAKIPKGCDLETTAPVLCAGITVYKGLKESGVRPGQCVAIVGAGGGLGSMAIQYANAMGLHAIAIDGG EEKGKNCRELGAQAYVDFTTTKDLVADVKAATPDGLGPHAVILLAVSEKPFHQAVDYVRSHQDGRPQQIA GSLRLDGGGQDCRQICRRYQQIEETGYMLRGGGVVEEIEEPDETTNLS	gi|86278351|gid|2582|alcohol dehydrogenase [Curvularia (352) 1429 1636.7 5.2e-086 0.760 0.939 262 gi|608690|gid|395|alcohol dehydrogenase [Candida albica (350) 1110 1271.6 1.1e-065 0.637 0.817 262	Alcohol dehydrogenase of *N. crassa* is > 77% identical to 100 proteins and taxa. It is therefore unlikely to pose a risk of food allergy.
13	>EAA33987.1 TUBULIN ALPHA CHAIN [Neurospora crassa] MREIISLNVGQAGCQIANSCWELYCLEHGIQPDGYLTEERKAADPDHGFSTFFSETGNGKYVPRTIYADLEP NVIDEVRTGAYRGLFHPEHMISGKEDASNNYARGHYTVGKELIDQVLDKVRRVADNCSGLQGFLVFHSFG GGTGSGFGALLMERLSVDYGKKSKLEFCVYPAPQTATSVVEPYNSILTTHTTLEHADCSFMVDNEAIYDICR RNLGLERPNYENLNRLIAQVVSSITASLRFDGSLNVDLNEFQTNLVPYPRIHFPLVAYAPVISAAKAAHEANS VQEMTMSCFEPNNQMVKCDPRHGKYMATCLLYRGDVVPNDAHAAVATLKTKRTIQFVDWCPTGFKLGI CYQPPHQVPNGDLAKVNRAVCMLSNTTAIAEAWSALSSKFDLMYSKRAFVHWYVGEGMEEGEFSEARE DLAALERDYEEVAADSMEGEDVEAEY	gi|1338184716|gid|2291|Der f 33-like protein [Dermatoph (460) 2336 3041.1 3.1e-164 0.749 0.904 450 gi|685432814|gid|2291|Der f 33 allergen [Dermatophagoid (461) 2315 3013.7 1e-162 0.738 0.900 451 gi|1561006371|gid|2993|allergen Der p 33 [Dermatophagoi (396) 2001 2605.0 6.1e-140 0.772 0.933 360	Tubulin of *N. crassa* is >93% identity to 100 proteins and is unlikely to pose a risk of cross-reactivity.
14	>EAA32343.3 superoxide dismutase [Neurospora crassa OR74A] MVNLGSIWQNLLASQAPLQSMTGNATTMAGLATYSLPQLPYAYNALEPYISAQIMELHHSKHHQTYVTNL NNALKVHVAAIASSDIPAQIAQQPAIKFNGGGHINHSLFWKNLAPAETPETNYSKAAPSLAAEIEKTWGSF DEFKKAFSAALLGIQGSGWGWLVKESTAEKGRLRIITTKDQDPVVGGEVPVFGVDMWEHAYYLQYLNGK AAYVENIWKVINWKTAEERFQGSREDAFADLKALL	gi|529279957|gid|1885|manganese superoxide dismutase [A (191) 927 1072.3 1.4e-054 0.705 0.884 190 gi|1648970|gid|330|manganese superoxide dismutase [Aspe (221) 870 1005.8 7.2e-051 0.640 0.832 197 gi|83305645|gid|330|Superoxide dismutase [Mn], mitochon (210) 869 1005.0 8e-051 0.640 0.832 197 gi|465795607|gid|647|allergen [Malassezia sympodialis A (202) 673 780.0 2.7e-038 0.485 0.755 200 gi|28569698|gid|647|manganese superoxide dismutase [Mal (237) 671 776.7 4.2e-038 0.492 0.756 197 gi|149786150|gid|1092|manganese superoxide dismutase-li (230) 663 767.7 1.3e-037 0.500 0.722 212 gi|348137|gid|590|superoxide dismutase (manganese) (233) 661 765.3 1.8e-037 0.484 0.711 225 gi|5777414|gid|590|MnSOD [Hevea brasiliensis] (205) 649 752.4 9.5e-037 0.507 0.741 201 gi|10862818|gid|590|IgE-binding protein MnSOD [Hevea br (205) 640 742.0 3.6e-036 0.502 0.736 201	Superoxide dismutase of *N. crassa* is >67% identity over 100 taxa or proteins and it is unlikely to pose a risk of cross-reactivity.
15	>EAA26627.1 hypothetical protein ((AJ292563) peptidyl-prolyl cis-trans isomerase [Neurospora crassa]) MSSTDDVKQARSRVFFDITIGGKAAGRIVFELYNDIVPKTAENFRALCTGEKGVGKLGKPLHYKGSTFHRVIK QFMIQGGDFTAGNGTGGESIYGAKFEDENFQLKHDRPFLLSMANAGPGTNGSQFFVTTVPTPHLDGKHV VFGEVLSGKSVVRQIENLKTQGDKPTKDAVIADCGELSGDAAVSADTKTADAYGDEYEDFPEDEATDGQPL SASKILKIATDCKDFGNKAFKAGDLPVALDKYQKGLRYLNEDPELDNEPADTKQKLDALRVSLNSNAALMN MKLSAWDECIRSADGALAVATISDKDRAKALYRRGYAQVRIKDEDSALTSLEEAKKLAPEDGAIVNELAAVK KAAAARMAKEKAAYKKFFS	gi|1373739558|gid|2869|cyclophilin 0101 [Olea europaea] (172) 808 984.5 1.1e-049 0.696 0.848 171 gi|373939374|gid|1941|cyclophilin [Daucus carota] (171) 802 977.3 2.8e-049 0.704 0.840 169 gi|21886603|gid|344|peptidylprolyl isomerase (cyclophil (173) 782 952.9 6.4e-048 0.673 0.839 168 gi|1220142|gid|1926|cyclophilin [Catharanthus roseus] (172) 780 950.5 8.7e-048 0.673 0.845 168 gi|91680605|gid|863|cyclophilin [Aspergillus fumigatus] (163) 735 896.3 9.1e-045 0.653 0.820 167 gi|4138173|gid|651|allergen [Malassezia sympodialis] (162) 711 867.2 3.8e-043 0.669 0.783 166 gi|37958141|gid|951|Der f Mal f 6 allergen [Dermatophag (164) 703 857.4 1.3e-042 0.618 0.800 170 gi|5019414|gid|325|PPIase [Aspergillus fumigatus] (178) 587 716.0 1e-034 0.575 0.737 179 gi|5391446|gid|619|pollen allergen Jun o 4 [Juniperus o (165) 86 108.6 0.68 0.320 0.515 103	Cyclophilin of N. crassa is >69% identity over 100 taxa or proteins. It is unlikely to pose a risk of cross-reactivity.

	F	G	H
16	>ESA42515.1 peptidyl-prolyl cis-trans isomerase B [Neurospora crassa OR74A] MFSLRRLLLAATLFLGAMLLFAQSAEAAKGPKITHKVYFDIEQGDKPLGRIVMGLYGKTVPKTAENFRALAT GEKGFGYEGSTFHRVIKQFMIQGGDFTKGDGTGGKSIYGDKFPDENFKLKHSKKGLLSMANAGKDTNGSQ FFITTVITSWLDGKHVVFGEVLEGYDVVEKIENTKTGPRDAPAEPIKIAKSGELEVPPEGLEGQSEWASPAYA NEDEKPAAPVPVTDAKPPAHDSIPAATADDDDTGAPLFAKVLFFGVLVLGLVLYIRLRRAPKGTYGKGME	gi|91680605|gid|863|cyclophilin [Aspergillus fumigatus] (163) 749 830.3 4.3e-041 0.683 0.863 161 gi|4138173|gid|651|allergen [Malassezia sympodialis] (162) 706 783.1 1.8e-038 0.684 0.810 158 gi|37958141|gid|951|Der f Mal f 6 allergen [Dermatophag (164) 698 774.3 5.7e-038 0.626 0.847 163 gi|373939374|gid|1941|cyclophilin [Daucus carota] (171) 655 727.0 2.4e-035 0.617 0.760 167 gi|1373739558|gid|2869|cyclophilin 0101 [Olea europaea] (172) 653 724.8 3.2e-035 0.601 0.774 168 gi|21886603|gid|344|peptidylprolyl isomerase (cyclophil (173) 647 718.2 7.5e-035 0.609 0.763 169 gi|5019414|gid|325|PPIase [Aspergillus fumigatus] (178) 638 708.3 2.7e-034 0.583 0.794 175 gi|1220142|gid|1926|cyclophilin [Catharanthus roseus] (172) 625 694.1 1.7e-033 0.592 0.751 169 gi|21585695|gid|660|allergenic-related protein Pt2L4 [M (177) 106 124.7 0.086 0.244 0.538 78 gi|332713934|gid|660|Manioc Glu [Manihot esculenta] (177) 105 123.6 0.099 0.244 0.526 78 gi|1480457|gid|594|latex allergen (151) 104 123.0 0.11 0.322 0.511 90	Cyclophilin of *N. crassa* is >63% identity across 100 taxa/proteins
17	>EAA27331.1 78 KDA GLUCOSE-REGULATED PROTEIN HOMOLOG PRECURSOR (GRP 78) (IMMUNOGLOBULIN HEAVY CHAIN BINDING PROTEIN HOMOLOG) (BIP) [Neurospora crassa] MEHRTRSWALGLSILGFFALLFSAGFVQQAHANDTEAMGTVIGIDLGTTYSCVGVMQKGKVEILVNDQG NRITPSYVAFTDEERLVGDAAKNQAAANPHRTIFDIKRLIGRKFSDKDVQNDIKHFPYKVVSKDDKPVVKVEV KGEEKTFTPEEISAMILGKMKETAEGYLGKKVTHAVVTVPAYFNDNQRQATKDAGMIAGLNVLRIVNEPT AAAIAYGLDKTGEERQIIVYDLGGGTFDVSLLSIEQGVFEVLSTAGDTHLGGEDFDQRIINHFAKLFNKKHGV DVTKDAKAMGKLKREAEKAKRTLSSQMSTRIEIEAFYDGKDFSETLTRAKFEELNNDLFKKTLKPVEQVLKDA KVSKSEIDDIVLVGGSTRIPKVQALIEEFFNGKKASKGINPDEAVAFGAAVQAGVLSGEEGTEDIVLMDVNPL TLGIETTGGVMTKLIPRNTPIPTRKSQIFSTAADNQPVVLIQVYEGERSMTKDNNLLGKFELTGIPPAPRGVP QIEVSFELDANGILKVSAHDKGTGKAESITITNDKGRLTQEEIDRMVAEAEKYAEEDKATRERIEARNGLENY AFSLKNQVNDEDGLGGKIDEEDKETILDAVKEAQDWLEENAATASAEDFDEQKEKLSNVAYPITSKLYSQG GAGDDEPAGHDEL	gi|94468818|gid|2708|heat shock cognate 70 [Aedes aegyp (655) 2877 3105.5 8e-168 0.684 0.897 632 gi|1055365842|gid|2591|heat shock-like protein [Tyropha (659) 2637 2846.3 2.2e-153 0.644 0.868 621 gi|1561006361|gid|3077|allergen Der p 28 [Dermatophagoi (655) 2601 2807.5 3.2e-151 0.627 0.873 620 gi|729764|gid|519|Heat shock 70 kDa protein (Allergen C (643) 2586 2791.4 2.5e-150 0.626 0.856 623 gi|685432788|gid|2076|Der f 28 allergen [Dermatophagoid (654) 2577 2781.6 8.9e-150 0.634 0.880 609 gi|442565876|gid|2076|heat shock protein 70 [Dermatopha (659) 2151 2321.5 3.8e-124 0.592 0.823 571 gi|14423733|gid|250|Heat shock 70 kDa protein (Allergen (503) 2000 2159.9 3.8e-115 0.631 0.853 491 gi|465797105|gid|2027|allergen [Malassezia sympodialis (773) 880 948.1 1.2e-047 0.287 0.622 651 gi|28564467|gid|2027|putative heat shock protein [Malas (773) 874 941.6 2.7e-047 0.287 0.621 651 gi|14423730|gid|61|Heat shock 70 kDa protein (Allergen (152) 356 391.0 1.3e-016 0.450 0.752 129 gi|589912891|gid|2206|Fra e 3.01 allergen [Fraxinus exc (84) 91 108.0 0.74 0.386 0.614 57 gi|219806590|gid|1217|tropomyosin [Neptunea polycostata (284) 97 107.9 0.75 0.257 0.571 140	This hypothetical protein of *N. crassa* is >85% identity across 100 proteins of taxa. It is highly unlikely to present a risk of cross-reactivity.
18	>EAA27741.1 GLYCERALDEHYDE 3-PHOSPHATE DEHYDROGENASE (GAPDH) (CLOCK-CONTROLLED PROTEIN 7) [Neurospora crassa] MVVKVGINGFGRIGRIVFRNAIEHDDIHIVAVNDPFIEPKYAAYMLRYDTTHGNFKGTIEVDGADLVVNGK KVKFYTERDPAAIPWSETGADYIVESTGVFTTTEKASAHLKGGAKKVIISAPSADAPMYVMGVNNETYDGS ADVISNASCTTNCLAPLAKVIHDNFTIVEGLMTTVHSYTATQKTVDGPSAKDWRGGRTAAQNIIPSSTGAA KAVGKVIPDLNGKLTGMAMRVPTANVSVVDLTARIEKGATYDEIKEVIKKASEGPLAGILAYTEDEVVSSDM NGNPASSIFDAKAGISLNKNFVKLVSWYDNEWGYSRRVLDLISYISKVDAKKA	gi|1503232071|gid|3045|glyceraldehyde-3-phosphate de (333) 1563 362.7 1.6e-101 0.700 0.891 330 gi|253783729|gid|2301|glyceraldehyde-3-phosphate deh (337) 1494 347.0 8.8e-097 0.666 0.883 332	Glyceraldehyde 3 phosphate dehydrobenase of *N. crassa* is > 85% identical to 100 taxa and proteins. It is highly unlikely to pose a risk of cross-reactivity.
19	>EAA28119.1 hypothetical protein [Neurospora crassa] MLIYSDIITGDEIISDSYDLKEVDGIAYEVDCAMIEEGAVQVDIGANASAEEADEALDDGVVKVNNVVHSFR LQSTQFDKKGYLVYLKGYMKSVKNALKEQGKSDEEIKDFETKASAFAKNVILAKFKDWEFYTGESMNPDGM VVLLNYREDGTTPYVVVWKHGLKETKV	gi|112824341|gid|1337|TCTP [Alternaria alternata] (169) 753 199.3 6.6e-053 0.665 0.888 170 gi|1679357707|gid|2864|RecName: Full=Translationally (169) 674 179.1 7.9e-047 0.612 0.818 170 gi|6523380|gid|624|allergen [Lepidoglyphus destructo (131) 78 26.9 0.4 0.309 0.545 110 gi|209979542|gid|556|ovomucoid [Gallus gallus] (210) 78 26.6 0.76 0.294 0.588 51	This hypothetical protein of *N. crassa* is > 76% identity across 100 taxa or proteins and it is highly unlikely to pose a risk of cross-reactivity.
20	>EAA29668.2 alpha tubulin [Neurospora crassa OR74A] MRGEVVHIHLGQAGTQLGNSAWELYLLEHGLTQDGRKDPDSTVAGEGGSYDTFFTESSNGKYVPRSLFVD LDPSPIDEIRTGPYRQLFHPELLISGKEDAANNYARGHYTVGKEMAENVLDRIRKITDNCHSLQGFLVFHSFG GGTGSGFGALVLERLAQDYAKKCKLEFSVYPAPRVATAVVEPYNAVLATHSTLEHSDVTFLVDNEAVYDICR RNLDIPRPSYEHLNRLIAQVVSSITSSLRFDGALNVDLNEFQTNLVPFPRVHYPLISYAPVISATKSAHESFKTSE LTLQCFEPNNQMVVCDPRNGKYMAVALLYRGDVVPRDTSAAVAALKAKSSFNLVEWCPTGFKIGINHQKP MSVPTASPADGGLASVDRSVSMLSNTTAIAEAWSRLDHKFDLMYSKRAFVHWYVGEGMEEGEFSEARE DLASLEKDYEEVAGDYNDVDVDAEY	gi|685432814|gid|2291|Der f 33 allergen [Dermatophag (461) 2117 488.9 3.2e-139 0.664 0.871 458 gi|1338184716|gid|2291|Der f 33-like protein [Dermat (460) 2107 486.6 1.6e-138 0.661 0.880 457 gi|1561006371|gid|2993|allergen Der p 33 [Dermatopha (396) 1780 412.1 3.6e-116 0.676 0.896 364	Alpha tubulin of *N. crassa* is >84% identity across 100 taxa and proteins and the three sequences with significant matches have at least 60% ID over 147 AA. The risk of cross-reactivity is low.
21	>ESA44269.1 peptidyl-prolyl cis-trans isomerase [Neurospora crassa OR74A] MFGPRHFSVLKTTGSLVSSTFSSSLKPTATFSCARAFSQTSSIMSKVFFDLEWEGPVLGPNNKPTSEIKAQSG RINFTLYDDVVPKTARNFKELCTGQNGFGYKGSSFHRIIPEFMLQGGDFTRGNGTGGKSIYGEKFADENFA KKHVRPGLLSMANAGPNTNGSQFFVTTVPTSWLDGRHVVFGEVADDESMKVVKALEATGSSSGAIRYSKK PTIVDCGAL	gi|5019414|gid|325|PPIase [Aspergillus fumigatus] (178) 760 180.1 5.3e-047 0.658 0.834 187 gi|91680605|gid|863|cyclophilin [Aspergillus fumigat (163) 734 174.3 2.8e-045 0.635 0.796 181 gi|4138173|gid|651|allergen [Malassezia sympodialis] (162) 729 173.1 6.1e-045 0.657 0.770 178 gi|37958141|gid|951|Der f Mal f 6 allergen [Dermatop (164) 693 164.9 1.8e-042 0.606 0.794 180 gi|1220142|gid|1926|cyclophilin [Catharanthus roseus (172) 662 157.8 2.7e-040 0.642 0.799 159 gi|21886603|gid|344|peptidylprolyl isomerase (cyclop (173) 660 157.4 3.7e-040 0.584 0.741 185 gi|1373739558|gid|2869|cyclophilin 0101 [Olea europa (172) 655 156.2 8e-040 0.575 0.747 186 gi|373939374|gid|1941|cyclophilin [Daucus carota] (171) 651 155.3 1.5e-039 0.637 0.809 157	Cyclophilin of *N. crassa* is > 67% identity across 100 taxa and proteins. It is unlikely to pose a risk of cross-reactivity.
22	>EAA36394.2 non-anchored cell wall protein 4 [Neurospora crassa OR74A] MAPKIAIVYYSMYGHIRQLAEAAKAGIEKAGGTADLYQVPETLSDEVLAKMYAPPKPTDIPVIEDPAILKEYD GFLFGIPTRYGNFPAQWRAFWDKTGGLWATGGLYGKAAGLFISTAGLGGGQESTAIAAMSTLAHHGIIY VPLGYAKVFGELSDLSAVHGGSPWGSGTLSGGDGSRQPSESELKVAGIQGEEFYNTLSKLTGA	gi|1168402|gid|64|Minor allergen Alt a 7 (Alt a VII) (204) 941 260.4 3.9e-071 0.657 0.881 201 gi|1213711549|gid|64|Allergen Alt a 7 [Alternaria al (261) 910 251.8 1.9e-068 0.663 0.876 193 gi|467629|gid|517|minor allergen Cla h 7 [Davidiella (204) 896 248.2 1.7e-067 0.644 0.861 202 gi|114326420|gid|539|major allergen I, polypeptide c (88) 82 29.7 0.046 0.364 0.591 44 gi|1169665|gid|539|Major allergen I polypeptide chai (92) 71 26.7 0.39 0.393 0.679 28 gi|163825|gid|539|major allergen I (92) 71 26.7 0.39 0.393 0.679 28 gi|218059715|gid|658|thaumatin-like protein [Malus x (158) 73 26.7 0.64 0.291 0.447 103 gi|1109403341|gid|658|thaumatin-like protein, partia (159) 73 26.7 0.65 0.268 0.438 112 gi|1364212|gid|539|fel d I chain 1 precursor with le (88) 67 25.7 0.76 0.393 0.643 28 gi|1364213|gid|539|fel d I chain 1 precursor with le (92) 67 25.6 0.81 0.393 0.643 28	The hypothetical protein NAD of *N. crassa* is >73% identity across 100 proteins and taxa. It is highly unlikely to pose a risk of cross-reactivity.
23	>EAA29172.1 hypothetical protein [Neurospora crassa] MFAASRIQTRAFSASARQLTKVSVLGAAGGIGQPLSLLLKLNPRVSELALYDIRGAPGVGADLSHINTKSTVK GYEPTASGLADALKGSEIVLIPAGVPRKPGMTRDDLFNTNASIVRDLAKACAESCPEANILVISNPVNSTVPI VSEIFKKAGVYNPKRLFGVTTLDVVRASRFVSEIKGTDPKDENITVVGGHSGVTIVPLFSQSKHPELSKNEQLI HRVQFGGDEVVKAKDGAGSATLSMAMAGARMAESLLRAAQGEKGVIEPTFVDSPLYKDQGIDFFASKVE LGPNGVEKIYPVGPVDEVEQKLLDACLVDLKKNIQKGKDEVAANPGK	gi|4587985|gid|648|major allergenic protein Mal f4 [(342) 1316 437.0 7.4e-124 0.650 0.839 329 gi|1503214048|gid|3046|L-lactate dehydrogenase A cha (333) 209 71.8 6.1e-014 0.255 0.582 282 gi|21069093|gid|244|alkaline serine protease [Penici (398) 83 30.0 0.29 0.214 0.521 140	The puative Mal f 4 protein has >79% identity matches to 100 proteins and taxa. It is highly unlikely to pose a risk of cross-reactivity

<table>
<tr><th></th><th>F</th><th>G</th><th>H</th></tr>
<tr><td>24</td><td>>EAA28590.1 hypothetical protein ((AY027544) Catalase-3 [Neurospora crassa])
MRVNALLPLSGLIGTALAACPFADPSALGRRAEGGEVDARQRLKEVEVDDNGQFMTTDFGGNIEEQFSLK
AGGRGSTLLEDFIFRQKLQHFDHERIPERVVHARGAGAHGIFTSYGDWSNITAASFLGAKDKQTPVFVRFST
VAGSRGSADTARDVHGFATRFYTDEGNFDIVGNNIPVFFIQDAIRFPDLIHSVKPSPDNEVPQAATAHDSA
WDFFSSQPSALHTLFWAMSGNGIPRSYRHMDGFGIHTFRLVTEDGKSKLVKWHWKTKQGKAALVWEEA
QVLAGKNADFHRQDLWDAIESGNAPSWELAVQLIDEDKAQAYGFDLLDPTKFLPEEFAPLQVLGEMTLNR
NPMNYFAETEQISFQPGHIVRGVDFTEDPLLQGRLYSYLDTQLNRHRGPNFEQLPINRPVSGVHNNHRDG
QGQAWIHKNIHHYSPSYLNKGYPAQANQTVGRGFFTTPGRTASGVLNRELSATFDDHYTQPRLFFNSLTPV
EQQFVINAIRFEASHVTNEQVKKNVLEQLNKISNDVAKRVAVALGLEAPQPDPTYYHNNVTRGVSIFNESLP
TIATLRVGVLSTTKGGSLDKAKALKEQLEKDGLKVTVIAEYLASGVDQTYSAADATAFDAVVVAEGAERVFS
GKGAMSPLFPAGRPSQILTDGYRWGKPVAAVGSAKKALQSIGVEEKEAGVYAGAQDEVIKGVEEGLKVFK
FLEREAVDGDDEF</td><td>gi|82754305|gid|850|catalase [Penicillium citrinum] (733) 2872 660.8 1.4e-190 0.634 0.846 725</td><td>This hypothetic catalase protein is >65% ID to for 100 taxa and proteins. It is highly unlikely to pose a risk of cross-reactivity.</td></tr>
<tr><td>25</td><td>>EAA30389.1 hypothetical protein [Neurospora crassa]
MGFTDLLTDAGLAVLNNWLLTRSYVTGYTASQADVAVFKALKEAPSAEKYPNAARWYKHIATYEDEFATL
AGDSSAPYTTYGPDVAEVTINPAKAPEAAAEEEEEDVDLFGSDDEEEDAEAARIREERLAAYREKKAAKPKI
AAKSIVTMDVKPWDDETDMVALEAAVRGIEKDGLVWGGSKLVPVGFGIKKLQINMVIEDEKISLDELQEEI
AGFEDYVQSTDIAAMQKL</td><td>gi|38326693|gid|246|elongation factor 1 beta-like [P (228) 933 226.6 7.3e-061 0.621 0.841 232</td><td>This hypothetical elongation factor > 75% ID to 100 proteins / taxa and is hihgly unlikely to poase a risk of cross-reactivity.</td></tr>
<tr><td>26</td><td>>EAA33651.1 THIOREDOXIN [Neurospora crassa]
MSDGVKHINSAQEFANLLNTTQYVVADFYADWCGPCKAIAPMYAQFAKTFSIPNFLAFAKINVDSVQQVA
QHYRVSAMPTFLFFKNGKQVAVNGSVMIQGADVNSLRAAAEKMGRLAKEKAAAAGSS</td><td>gi|19879659|gid|544|thioredoxin-like protein [Fusari (121) 501 153.8 1.8e-039 0.600 0.875 120
gi|465793078|gid|1026|allergen [Malassezia sympodial (107) 275 87.1 1.9e-019 0.396 0.708 106
gi|8980491|gid|2278|thioredoxin h [Triticum aestivum (125) 237 75.7 5.7e-016 0.416 0.719   89
gi|91680609|gid|876|thioredoxin [Aspergillus fumigat (110) 234 74.9 8.8e-016 0.373 0.682 110
gi|308193268|gid|1776|thioredoxin [Plodia interpunct (106) 233 74.6 1e-015 0.349 0.697 109
gi|91680607|gid|793|thioredoxin [Aspergillus fumigat (108) 223 71.7 8.1e-015 0.378 0.780   82
gi|66841002|gid|844|thioredoxin h1 protein [Zea mays (128) 224 71.9 8.4e-015 0.453 0.760   75
gi|85701160|gid|63|Protein disulfide-isomerase (PDI) (436) 136 45.1 3.3e-006 0.256 0.721   86
gi|589912883|gid|2678|Sal k 6.01 allergen, partial [(381)   82 29.2   0.17 0.293 0.560   75
gi|1194995727|gid|2678|Sal k 6.01 allergen [Kali tur (401)   82 29.2   0.19 0.293 0.560   75
gi|18839|gid|589|rubber elongation factor [Hevea bra (138)   71 26.6   0.39 0.217 0.539 115</td><td>The thioredoxin of N. crassa is >58% ID over 100 sequences or taxa and is highly unlikely to pose a risk or cross-reactivity.</td></tr>
<tr><td>27</td><td>>ESA43431.1 hypothetical protein NCU16695 [Neurospora crassa OR74A]
MNQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ
QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQEQQQEQLSGLTSFKEFLARRSTTTSTT
TTHSINLECMSDEYNMNRRRSFGRGGAGNIRSREEAVTFPPIIMFTPMSMSTSIRSSMIHHHIDHEPGSGG
GDESETASASTSDNMETSGGSNPENDDDAVHRPTCPYQFHYRYHYRHYRPGHFSGGGSSGGSSSGGSSS
AWSSMSVSSSTLGTRESVALLGGSRRGRLLSGMRQVLSGGSGRSGGSGGSGYGHKNGQSPR</td><td>The best scores are: opt bits E(2233) %_id %_sim alen
gi|208605346|gid|150|D-type LMW glutenin subunit [Tr (272) 351 45.5 4e-006 0.592 0.650 103
+-   232 34.8 0.0065 0.506 0.620   79
gi|208605348|gid|150|D-type LMW glutenin subunit [Tr (346) 352 45.6 4.6e-006 0.622 0.633   98
+-   351 45.5 4.9e-006 0.592 0.650 103
+-   232 34.9 0.0077 0.506 0.620   79
gi|73912496|gid|150|omega-5 gliadin [Triticum aestiv (439) 350 45.5 6.2e-006 0.619 0.639   97
+-   350 45.5 6.2e-006 0.612 0.643   98
+-   317 42.6 4.8e-005 0.579 0.642   95
+-   288 40.0 0.00029 0.505 0.604 101
gi|75317968|gid|154|LMM glutenin 3   (373) 332 43.9 1.7e-005 0.550 0.690 100
+-   253 36.8 0.0022 0.434 0.611 113
gi|21783|gid|154|LMW glutenin-like protein product [(356) 326 43.3 2.3e-005 0.536 0.655 110
+-   274 38.7 0.00059 0.472 0.642 106
gi|258588247|gid|1572|Chain A, Crystal Structure Of (531) 314 42.4 6.6e-005 0.370 0.717 138
gi|283476402|gid|1617|alpha/beta gliadin precursor [(281) 304 41.3 7.6e-005 0.496 0.606 137
gi|307159112|gid|1572|prunin 1 precursor [Prunus dul (551) 312 42.2 7.7e-005 0.370 0.717 138
gi|170710|gid|151|alpha-type gliadin precursor prote (318) 296 40.6 0.00014 0.508 0.659 132
gi|288860106|gid|160|high molecular weight glutenin (848) 303 41.6 0.00019 0.529 0.549 102
+-   263 38.0 0.0022 0.463 0.528 108
+-   241 36.0 0.0087 0.444 0.519 108
gi|335331566|gid|154|low molecular weight glutenin [(369) 292 40.3 0.0002 0.500 0.650 100
gi|170736|gid|152|gamma-gliadin   (251) 285 39.5 0.00023 0.531 0.573   96
gi|508732621|gid|152|gamma-gliadin, partial [Triticu (279) 285 39.6 0.00025 0.531 0.573   96
gi|170722|gid|151|pre-alpha-/beta-gliadin A-I   (262) 281 39.2 0.0003 0.505 0.577 111
gi|1063270|gid|152|gamma-gliadin precursor [Triticum (279) 281 39.2 0.00032 0.438 0.563 128
gi|508732623|gid|150|omega-gliadin, partial [Triticu (366) 283 39.5 0.00034 0.491 0.574 108
+-   238 35.5 0.0056 0.465 0.515   99
+-   222 34.0   0.015 0.422 0.510 102
gi|21761|gid|151|Gliadin-like protein product [Triti (286) 279 39.0 0.00036 0.500 0.573 110
gi|886965|gid|154|low molecular weight glutenin [Tri (261) 277 38.8 0.00039 0.505 0.586   99</td><td>Three sequences have significant matches over part of the protein that is not poly Q. The rest of the amino acids are to QQQQQ and they are unlikely to pose a risk of cross-reactivity.</td></tr>
<tr><td>28</td><td>>EAA29827.1 hypothetical protein [Neurospora crassa]
MARKFFVGGNFKMNGTRKDLKAIVDNLNNAQLDPNAEVVIAPPALYLDFVKQNLQKPNVEVAAQNVFNK
PNGAFTGEISATQLLDLGVKWVILGHSERRNELGESDEFIASKTKYALDNGISVIWCCGESKDTRQAGETIKF
VENQLAALAKEINDWKNVVIAYEPIWAIGTGLVATKEQAQEVHAAIRSWLKQNVSDKVAEETRILYGGSV
NAKNCKDLAKEQDIDGFLVGGASLKPEFVDIINANL</td><td>gi|11124572|gid|166|triosephosphat-isomerase [Tritic (253) 971 228.0 3.2e-061 0.589 0.827 248
gi|221222152|gid|3028|Triosephosphate isomerase [Sal (247) 934 219.6 1.1e-058 0.561 0.833 246
gi|685432812|gid|2075|Der f 25 allergen [Dermatophag (247) 932 219.1 1.5e-058 0.549 0.841 246
gi|1503267586|gid|3052|triosephosphate isomerase B [(248) 923 217.1 6.2e-058 0.557 0.840 244
gi|442565872|gid|2075|triose-phosphate isomerase [De (247) 906 213.2 9e-057 0.557 0.825 246
gi|238477329|gid|1741|triosephosphate isomerase [Cra (249) 886 208.6 2.1e-055 0.551 0.804 245
gi|1122816254|gid|2690|triosephosphate isomerase [Sc (248) 881 207.5 4.7e-055 0.553 0.803 244
gi|328900101|gid|2846|triosephosphate isomerase [Pro (248) 865 203.9 5.9e-054 0.549 0.803 244</td><td>This hypothetical protein of N. crassa is >70% ID over >100 taxa proteins</td></tr>
<tr><td>29</td><td>>EAA34964.2 peroxisomal membrane protein [Neurospora crassa OR74A]
MSALKAGDSFPEGVTFTYVAPSGDTDLTVCGLPIQYDASKAFANKKVVLVAVPGAFTPTCQQQHVPSYLAK
LEEFKSKGVDQIIFIASNDAWVMAAWGKANGVKDESILFMSDADCKFSKSIGWTQGDRTKRYAIVIDHGK
VTYAELDEVPKSIANTGADGVLAKL</td><td>gi|5326864|gid|251|peroxisomal membrane protein [Pen (167) 641 160.8 2.4e-041 0.578 0.813 166
gi|2769700|gid|319|peroxisomal-like protein [Aspergi (168) 629 157.9 1.8e-040 0.560 0.810 168
gi|465794772|gid|650|allergen [Malassezia sympodiali (172) 444 113.5 4.5e-027 0.443 0.716 176
gi|4138171|gid|650|allergen [Malassezia sympodialis] (172) 444 113.5 4.5e-027 0.443 0.716 176
gi|3445492|gid|646|MF2 [Malassezia furfur]   (166) 424 108.7 1.2e-025 0.432 0.722 169
gi|3445490|gid|644|MF1 [Malassezia furfur]   (177) 416 106.7 4.9e-025 0.385 0.672 174
gi|75324900|gid|1542|RecName: Full=1-Cys peroxiredox (218)   99 30.4   0.056 0.258 0.567 120
gi|190684059|gid|1542|peroxiredoxin [Triticum aestiv (218)   98 30.2   0.067 0.276 0.575   87</td><td>This peroxisomal protein of N. crassa is >58% ID over 100 sequences and taxa. It is highly unlikely to be cross-reactive.</td></tr>
</table>

	F	G	H
30	>EAA29931.1 hypothetical protein [Neurospora crassa] MHAPTKFALGLLAAAAVATASDVIQLKKDTFDDFVKTNDIVLAEFFAPWCGHCKALAPEYEEAATTLKEKNI KLAKIDCTEESELCQQHGVEGYPTLKVFRGLEVVSPYKGQRKAAAITSYMIKQSLPSVSELNKDNIEEFKKADK VVIVAYLDAADKASNETFSKVADKLRDEYPFGASSDAALAEAEGVTAPAIVLYKDFDEGKAVFTEKFDPEAIE KFAKTASTPLIGEVGPDTYAGYMSAGIPLAYIFAETPEERKELSEALKSIAEAQRGVINFATIDAKAFGAHAG NLNLKADKFPAFAIQDTTKNLKFPFDQEKEITADSIKKFVDDFVAGKVEPTIKSEPIPETQEGPVTVVVAKSYD DIVLDDTKDVLIEFYAPWCGHCKALAPKYDELATLYANSDFKDKVVIAKVDATQNDVPDEIQGFPTIKLYAA GAKDKPVEYSGPRTVEDLIKFISENGKYKASPPAEAEESVAASAESGSSTETGTVEEPAKETSHDEL	gi|85701160|gid|63|Protein disulfide-isomerase (PDI) (436) 1323 307.9 1e-084 0.563 0.789 380 gi|91680607|gid|793|thioredoxin [Aspergillus fumigat (108) 182 48.9 2.3e-007 0.366 0.667 93 gi|465793078|gid|1026|allergen [Malassezia sympodial (107) 181 48.7 2.6e-007 0.281 0.635 96 gi|308193268|gid|1776|thioredoxin [Plodia interpunct (106) 169 46.0 1.7e-006 0.414 0.667 87 gi|91680609|gid|876|thioredoxin [Aspergillus fumigat (110) 165 45.0 3.6e-006 0.342 0.632 76 gi|19879659|gid|544|thioredoxin-like protein [Fusari (121) 141 39.3 0.0002 0.311 0.689 74 gi|66841002|gid|844|thioredoxin h1 protein [Zea mays (128) 118 34.0 0.0084 0.320 0.587 75 gi|8980491|gid|2278|thioredoxin h [Triticum aestivum (125) 116 33.6 0.011 0.300 0.622 90 gi|576011088|gid|1707|RecName: Full=Fructose-bisphos (37) 72 27.5 0.22 0.387 0.710 31 gi|113560|gid|268|Pollen allergen KBG 31 precursor ((373) 102 29.6 0.52 0.295 0.548 210 gi|113562|gid|268|Pollen allergen KBG 60 precursor ((307) 99 29.0 0.66 0.270 0.531 211 gi|21735616|gid|329|Group V allergen-like protein pr (287) 96 28.3 0.97 0.307 0.559 180	This hypothetical protein of *N. crassa* is >75% ID for 100 Proteins taxa. It is highly unlikely to pose a risk of cross-reactivity.
31	>EAA34829.2 alpha-amylase [Neurospora crassa OR74A] MRPERQLSVVLGLLLSAAVQVGALTSSEWRKQSIYQVVTDRFARSDLSTSAPCDTSQQVYCGGSWQGLISK LDYIQGMGFTAVWISPIVKQIDGVTKDGSSYHGYWASDIWSLNPSFGTADNLKGLSKALHDRGMYLMVD VVTNHMAYLGCRSCINYQGLNPFSSQSYYHSPCTINYDNQTSIETCWQGSDVVSLPDLKTETDDVRKIWHD WVSKIVSTYSIDGLRIDSVKHVEKSFWPGFESAAGVFAIGEVFQGDPAYLAPYQSYISGVLDYASYYWIVNAF QSTSGNITALANGMNILKAAAIDLSLYGSFLENHDQARFAHKTSDMVLAKNAIAFTMLKDGIPIIYQGQEQH YAGSDTPYNREALWLSGFSTNSELYTWIKRLNQLRTHAIKKDDGYLTYRAWPIYSDSHTIAMRKGSSNKQV VGVFTNVGASSSTAVTLSSLASGFSADEPVTDVVSCDSFITDSGGSITITLFGGLPRILYSTTLLNGSDICSSRSA PTSTTSTNSGVPTSISSAASTSCTATAVPITFEALVSTSYGETVKLLGNTTTLGSWNTANAVTLSASKYTSSNP LWYVSFDLARGNVILKFKYVNSSGTVSWESDPNHKVTVPCAAATVSSTWRK	gi|5326864|gid|251|peroxisomal membrane protein [Pen (167) 641 160.8 2.4e-041 0.578 0.813 166 gi|2769700|gid|319|peroxisomal-like protein [Aspergi (168) 629 157.9 1.8e-040 0.560 0.810 168 gi|465794772|gid|650|allergen [Malassezia sympodiali (172) 444 113.5 4.5e-027 0.443 0.716 176 gi|4138171|gid|650|allergen [Malassezia sympodialis] (172) 444 113.5 4.5e-027 0.443 0.716 176 gi|3445492|gid|646|MF2 [Malassezia furfur] (166) 424 108.7 1.2e-025 0.432 0.722 169 gi|3445490|gid|644|MF1 [Malassezia furfur] (177) 416 106.7 4.9e-025 0.385 0.672 174 gi|75324900|gid|1542|RecName: Full=1-Cys peroxiredox (218) 99 30.4 0.056 0.258 0.567 120 gi|190684059|gid|1542|peroxiredoxin [Triticum aestiv (218) 98 30.2 0.067 0.276 0.575 87	There are 100 sequences of >53% identity over 80 by BLAST. It is highly unlikely to cause a risk of food allergy.
32	>EAA35366.3 heat shock protein 70 [Neurospora crassa OR74A] MADEVYDGAIGIDLGTTYSCVAIYEGTNVEIIANEQGSFTTPSFVSFTPEERLIGEAAKNQAAMNPKNTVFD VKRLIGRRIDDPTVKKDQESWPFKVVDDGAGNPKVEVDYLNGVHTFSPQEISAMVLTKMKEIAEVKLGKKV EKAVITVPAYFNDNQRQATKDAGAIAGLNVLRIINEPTAAAIAYGLGANKSNKERNVLIYDLGGGTFDVSLL NIQGGVFTTKKDLSGDARALRRLRTACERAKRTLSSGAQTTIEIDSLFDGEDFNINVTRARFEDLNAKAFSGT LEPVAQVLKDAGIEKSAVDEIVLVGGSTRIPKVQKLLSEFFDGKKLEKSINPDEAVAYGAAVQAGILSGKATSA ETSDLLLLDVVPLSLGVAMEGNIFAPVVPRGQTVPTIKKRTFTTVADNQQTVQFPVYQGERVNCEDNTSLG EFTLAPIPPMKAGEPVLEVVFEVDVNGILKVTATEKTSGRSANITISNSVGKLSSSEIEKMVEEAEKFKSNDEA FSKRFEAKQQLESYISRVEEIVSDPTLSLKLKRGQKEKIEQSLSEAMSQLEIEDSSAEDLKKKELALKRLVTKAMS SR	gi|1561006361|gid|3077|allergen Der p 28 [Dermatopha (655) 1186 286.4 5.2e-078 0.558 0.801 607 gi|685432788|gid|2076|Der f 28 allergen [Dermatophag (654) 1168 282.2 9.8e-077 0.551 0.804 597 gi|729764|gid|519|Heat shock 70 kDa protein (Allerge (643) 1144 276.5 4.8e-075 0.534 0.779 605 gi|1055365842|gid|2591|heat shock-like protein [Tyro (659) 1135 274.4 2.2e-074 0.543 0.791 597 gi|442565876|gid|2076|heat shock protein 70 [Dermato (659) 940 228.4 1.5e-060 0.508 0.754 606 gi|94468818|gid|2708|heat shock cognate 70 [Aedes ae (655) 892 217.1 3.9e-057 0.503 0.771 606 gi|465797105|gid|2027|allergen [Malassezia sympodial (773) 457 114.4 3.8e-026 0.267 0.559 648 gi|28564467|gid|2027|putative heat shock protein [Ma (773) 451 113.0 1e-025 0.267 0.557 648 gi|14423730|gid|61|Heat shock 70 kDa protein (Allerg (152) 212 57.9 7.4e-010 0.359 0.748 103 gi|59894749|gid|848|60S acidic ribosomal P1 phosphop (107) 86 28.5 0.38 0.320 0.587 75 gi|11514622|gid|21|Chain A, Birch Pollen Allergen Be (159) 85 27.9 0.83 0.257 0.554 148	There are 100 proteins / Taxa over 83% ID over 80 AA for this N. crassa proteins. It is not likely to cause cross-reactivity.
33	>EAA36265.3 Eno3 protein [Neurospora crassa OR74A] MLLDVKASQRLDSRGNPTIQVEVRTAHGIFRALVPSGASTGVHEAVELRDNDKRKYGGKGVLTAVNNVNE IIGPALVKEGYSSRRDLKQIDGFMRELDGTPNKAKLGANAILGVSMACARAGAAAAFLRREGGEEAPYMV PVPFFNVLNGGRHSGNGMAFQEFMIAPTGAKTIEEGIQMASETYFVLKQMISDKFGAIYTGVGDEGGFAP PITQPEEALDLLTEAVAKAGYTDKIKFGIDAASSEFFNPENGTYDLGFKRIKEGESHSDDVRTPAEMMALYKS LIEKYPIPLLEDPFAEDDWESWTKFCKDFYFEELVGDDLLVTNVERVRMAESRVACNAMLLKINQIGTVTEA LDAAKLAKSLGWGVFVSHRSGETTDDFIADLSVGLCTGHIKSGAPCRGERVAKYNRLLDIETELKESWKPWS YAGEKFRKPEAFFI	gi|13925873|gid|329|enolase [Aspergillus fumigatus] (438) 1453 337.5 1.1e-093 0.546 0.752 436 gi|83288046|gid|329|Enolase (2-phosphoglycerate dehy (438) 1452 337.3 1.3e-093 0.546 0.752 436 gi|385145180|gid|1959|enolase [Salmo salar] (432) 1447 336.2 2.7e-093 0.525 0.778 442 gi|197632415|gid|1959|enolase 3-2 [Salmo salar] (434) 1446 335.9 3.2e-093 0.536 0.768 440 gi|576011129|gid|1955|RecName: Full=Alpha-enolase; A (432) 1432 332.7 2.9e-092 0.520 0.785 442 gi|46048765|gid|2710|beta-enolase [Gallus gallus] (434) 1421 330.2 1.7e-091 0.514 0.770 440 gi|13991101|gid|249|enolase [Penicillium citrinum] (438) 1417 329.3 3.2e-091 0.539 0.749 438 gi|14423684|gid|66|Enolase (2-phosphoglycerate dehyd (438) 1415 328.9 4.4e-091 0.534 0.745 436 gi|6015094|gid|491|Enolase (2-phosphoglycerate dehyd (440) 1406 326.8 1.8e-090 0.529 0.753 433 gi|232054|gid|396|Enolase 1 (2-phosphoglycerate dehy (440) 1394 324.1 1.2e-089 0.526 0.756 439 gi|467660|gid|491|enolase; phosphopyruvate hydratase (440) 1386 322.2 4.3e-089 0.524 0.748 433 gi|30314940|gid|103|enolase [Rhodotorula mucilaginos (439) 1374 319.5 2.8e-088 0.518 0.761 436 gi|14585753|gid|1031|enolase [Curvularia lunata] (440) 1351 314.3 1.1e-086 0.524 0.735 437 gi|9581744|gid|586|enolase, isoform 1 [Hevea brasili (445) 1349 313.8 1.5e-086 0.517 0.764 449 gi|14423687|gid|586|Enolase 2 (2-phosphoglycerate de (445) 1340 311.8 6.2e-086 0.516 0.763 448 gi|1503219495|gid|3047|beta-enolase [Pangasianodon h (341) 1152 269.0 3.6e-073 0.530 0.779 349	This enolase of *N. crassa* is >55% ID over 100

	F	G	H
34	>ESA42917.1 pectate lyase 1 [Neurospora crassa OR74A] MKFALAVTAFFAVATATPTPTRDSEGRVPLAKRATVSDIANLGYATQNGGTTGGSGGTVTTVSTLAQFTA AVSEKNTAPAIVVVDGVIKGNTKVRIGSNKTIIGLPGAGFNGVGLHFRRQSNLILRNIVSSFVEADNGDGLTI EKSSNVWVDHCEFYSTLARDKDFYDGLVDISHGSEWVTISHTYFHDHWKSSLVGHSDSNGSEDTGHLHVTY ANNYWKDCGSRGPLIRFGTAHIYNSYYENMSTSINTRMGAQVLVQSNAFKNVTKPLFSEYSKQVGYAVEI DNDFGGANNTAPTGTMTSSSPPYSYSLLGSSNVAATVPKEVGAILSF	gi|121584258|gid|925|pectate lyase [Penicillium citr (290) 1014 242.6 2e-065 0.542 0.768 297 gi|493632|gid|450|Cry j IA precursor [Cryptomeria ja (374) 290 74.9 7.9e-015 0.290 0.542 310 gi|19069497|gid|453|putative allergen Cup a 1 [Cupre (367) 280 72.6 3.8e-014 0.275 0.613 222 gi|516728|gid|450|Cry j I precursor [Cryptomeria jap (374) 280 72.6 3.9e-014 0.284 0.548 310 gi|6562326|gid|453|cup a 1 protein [Cupressus arizon (346) 279 72.4 4.2e-014 0.299 0.644 174 gi|118197955|gid|453|major allergen Cup a 1 [Cupress (347) 279 72.4 4.2e-014 0.299 0.644 174 gi|15139849|gid|617|putative allergen jun o 1 [Junip (367) 278 72.1 5.3e-014 0.283 0.647 173 gi|8843921|gid|617|pollen major allergen 1-1 [Junipe (367) 276 71.7 7.3e-014 0.277 0.586 278 gi|8101717|gid|453|Cup s 1 pollen allergen precursor (367) 275 71.4 8.5e-014 0.270 0.580 281 gi|8101719|gid|453|Cup s 1 pollen allergen precursor (367) 275 71.4 8.5e-014 0.270 0.580 281 gi|4138877|gid|617|pollen major allergen 1-1 [Junipe (367) 274 71.2 1e-013 0.273 0.586 278 gi|1514943|gid|423|Chao1 [Chamaecyparis obtusa] (375) 273 71.0 1.2e-013 0.282 0.570 277 gi|493634|gid|450|Cry j IB precursor [Cryptomeria ja (374) 272 70.7 1.4e-013 0.281 0.545 310 gi|8101711|gid|453|Cup s 1 pollen allergen precursor (367) 270 70.3 1.9e-013 0.293 0.644 174 gi|8101713|gid|453|Cup s 1 pollen allergen precursor (367) 270 70.3 1.9e-013 0.270 0.580 281 gi|8101715|gid|453|Cup s 1 pollen allergen precursor (367) 270 70.3 1.9e-013 0.263 0.569 281 gi|8843917|gid|617|pollen major allergen 1-2 [Junipe (367) 268 69.8 2.6e-013 0.273 0.583 278 gi|62530263|gid|979|Amb a 1-like protein [Artemisia (396) 253 66.3 3.2e-012 0.312 0.565 253 gi|302127818|gid|36|putative pectate lyase precursor (397) 245 64.4 1.2e-011 0.282 0.544 333 gi|302127828|gid|36|putative pectate lyase precursor (397) 244 64.2 1.4e-011 0.368 0.611 144 gi|302127826|gid|36|putative pectate lyase precursor (397) 243 64.0 1.6e-011 0.361 0.611 144 gi|166447|gid|36|allergen [Ambrosia artemisiifolia] (397) 243 64.0 1.6e-011 0.361 0.611 144 gi|302127820|gid|36|putative pectate lyase precursor (397) 241 63.5 2.2e-011 0.279 0.544 333 gi|302127822|gid|36|putative pectate lyase precursor (397) 241 63.5 2.2e-011 0.279 0.544 333 gi|302127816|gid|36|putative pectate lyase precursor (397) 240 63.3 2.6e-011 0.272 0.553 331 gi|166443|gid|36|antigen E (397) 240 63.3 2.6e-011 0.272 0.553 331 gi|302127814|gid|36|putative pectate lyase precursor (397) 240 63.3 2.6e-011 0.272 0.553 331 gi|113477|gid|36|Pollen allergen Amb a 1.3 precursor (397) 240 63.3 2.6e-011 0.272 0.553 331 gi|1191633749|gid|2703|putative pectate lyase 2 [Hel (394) 238 62.8 3.6e-011 0.314 0.549 264 gi|302127810|gid|36|putative pectate lyase precursor (396) 222 59.1 4.7e-010 0.279 0.550 269 gi|113475|gid|36|Pollen allergen Amb a 1.1 precursor (396) 222 59.1 4.7e-010 0.279 0.550 269	This pectate lyase protein of *N. crassa is* >36% id to Penicillium citrinum protein that is a weak allergen. By BLASTP it is >55% identical to 100 protiens from diverse sources. It is unlikely to pose a risk of allergic cross-reactivity.
35	>EAA35055.2 superoxide dismutase [Neurospora crassa OR74A] MVKAVAVVRGDSNVKGTVIFEQESESAPTTITYDISGNDPNAKRGFHIIHTFGDNTNGCTSAGPHFNPHGT THGDRTAEVRHVGDLGNIETDAQGNAKGTVTDNLVKLIGPESVIGRTVVVHAGTDDLGKGGNEESLKTGN AGPRPACGVIGISQ	gi|160347112|gid|694|allergen Ole e 5 [Olea europaea (152) 548 140.4 2.8e-035 0.539 0.783 152 gi|145313972|gid|694|pollen allergen Ole e 5 [Olea e (152) 544 139.4 5.5e-035 0.539 0.776 152 gi|160962543|gid|694|Ole e 5 olive pollen allergen [(152) 544 139.4 5.5e-035 0.546 0.776 152 gi|39840779|gid|694|Cu /Zn super-oxide dismutase [Ol (152) 543 139.2 6.5e-035 0.539 0.776 152 gi|160962577|gid|694|Ole e 5 olive pollen allergen [(152) 543 139.2 6.5e-035 0.539 0.776 152 gi|160347106|gid|694|allergen Ole e 5 [Olea europaea (152) 543 139.2 6.5e-035 0.539 0.776 152 gi|160962547|gid|694|Ole e 5 olive pollen allergen [(152) 542 139.0 7.7e-035 0.539 0.770 152 gi|160347130|gid|694|allergen Ole e 5 [Olea europaea (152) 542 139.0 7.7e-035 0.539 0.770 152 gi|160962613|gid|694|Ole e 5 olive pollen allergen [(152) 541 138.7 9.1e-035 0.539 0.770 152 gi|160962557|gid|694|Ole e 5 olive pollen allergen [(152) 540 138.5 1.1e-034 0.539 0.770 152 gi|160962583|gid|694|Ole e 5 olive pollen allergen [(152) 539 138.2 1.3e-034 0.533 0.776 152 gi|160347124|gid|694|allergen Ole e 5 [Olea europaea (152) 539 138.2 1.3e-034 0.539 0.776 152 gi|160347126|gid|694|allergen Ole e 5 [Olea europaea (152) 538 138.0 1.5e-034 0.539 0.770 152 gi|160962569|gid|694|Ole e 5 olive pollen allergen [(152) 537 137.7 1.8e-034 0.533 0.776 152 gi|160347138|gid|694|allergen Ole e 5 [Olea europaea (152) 534 137.0 3e-034 0.533 0.776 152 gi|160962597|gid|694|Ole e 5 olive pollen allergen [(152) 534 137.0 3e-034 0.533 0.770 152 gi|160347134|gid|694|allergen Ole e 5 [Olea europaea (152) 533 136.8 3.5e-034 0.533 0.776 152 gi|160962611|gid|694|Ole e 5 olive pollen allergen [(152) 528 135.6 8.1e-034 0.533 0.770 152 gi|160347122|gid|694|allergen Ole e 5 [Olea europaea (152) 524 134.6 1.6e-033 0.526 0.763 152 gi|160962591|gid|694|Ole e 5 olive pollen allergen [(152) 522 134.1 2.2e-033 0.526 0.770 152 gi|160347120|gid|694|allergen Ole e 5 [Olea europaea (152) 519 133.4 3.7e-033 0.520 0.770 152 gi|160962587|gid|694|Ole e 5 olive pollen allergen [(144) 503 129.5 5.1e-032 0.520 0.743 152 gi|160347108|gid|694|allergen Ole e 5 [Olea europaea (144) 477 123.2 4.1e-030 0.507 0.730 152	The superoxide dismutaase of *N. crassa* is >85% ID to 100 proteins from diverse sources of plants and pollen. It is unlikely to pose a risk of cross-reactivity.
36	>EAA28028.2 aldehyde dehydrogenase [Neurospora crassa OR74A] MNLFLRPSRPGSVPLWRHLYKTKGKQVYHVQLSLRTFSSSSPFFTNIIKPNMEVELTAPNGKKWMQPLGLF NNEFVKSANEQKLISINPTTEEEICSVYAATAEDVDAAVSAARKAFRHESWKSLSGTERGALMRKLADLVAE NAEILATIECLDNGKPYQTALNENVPEVINVLRYYAGYADKNFGQVIDVGPAKFAYTVKEPLGVCGQIIPWN YPLDMAAWKLGPALCCGNTVVLKLAEQTPLSVLYLAKLIKEAGFPPGVINIINGHGREAGAALVQHPQVDKI AFTGSTTTGKEIMKMASYTMKNITLETGGKSPLIVFEDADLELAATWSHIGIMSNQGQICTATSRILVHEKIY DEFVEKFKAKVQEVSVLGDPFEESTFHGPQVTKAQYERVLGYINVGKEEGATVMMGGEPAPQNGKGFFV APTVFTNVKPTMKIFREEIFGPCVAITTFKTEEEALTLANDSMYGLGAALFTKDLTRAHRVAREIEAGMVW VNSSNDSDERIPFGGVKQSGIGRELGEAGLAPYCNVKSIHVNLAA	gi|76666767|gid|65|aldehyde dehydrogenase (NAD+) [Al (497) 1744 403.8 1.7e-113 0.533 0.780 492 gi|76666769|gid|518|aldehyde dehydrogenase (NAD+) [D (496) 1734 401.5 8.3e-113 0.539 0.780 492 gi|1055365860|gid|2592|aldehyde dehydrogenase-like p (486) 1520 352.7 3.9e-098 0.502 0.738 478	The alderhyde dehydrogenase of *N. crassa* is >65% ID 100 taxa proteins. It is highly unlikely to pose a risk of cross-reactivity
37	>ESA41863.1 superoxide dismutase, variant [Neurospora crassa OR74A] MSASLFRATPVARSALRAASAVKPAATFVRGKATLPDLQYDYGALEPYISSKIMELHHSKHHQTYVNGLNSA LTTIAEAESKGDFTKAASVAPLLNFHGGGHLNHTLFWENLAPASREGGGSPDGALGKAITTEFGSFESFVKQ MNAALAGIQGSGWAWLAKDKAANGKLALITRANQDPVTGNYVPLLGIDAWEHAYYLQYENRKAEYFEAI WNVINWKTVAKRFEA	gi|149786150|gid|1092|manganese superoxide dismutase (230) 742 220.6 4.7e-059 0.524 0.806 206 gi|348137|gid|590|superoxide dismutase (manganese) (233) 734 218.3 2.4e-058 0.516 0.781 219 gi|5777414|gid|590|MnSOD [Hevea brasiliensis] (205) 722 214.8 2.4e-057 0.533 0.807 197 gi|10862818|gid|590|IgE-binding protein MnSOD [Hevea (205) 721 214.5 2.9e-057 0.533 0.807 197 gi|1648970|gid|330|manganese superoxide dismutase [A (221) 713 212.1 1.5e-056 0.521 0.725 211 gi|83305645|gid|330|Superoxide dismutase [Mn], mitoc (210) 712 211.8 1.8e-056 0.553 0.751 197 gi|465795607|gid|647|allergen [Malassezia sympodiali (202) 642 191.5 2.3e-050 0.482 0.736 193 gi|28569698|gid|647|manganese superoxide dismutase [(237) 642 191.5 2.7e-050 0.482 0.736 193 gi|529279957|gid|1885|manganese superoxide dismutase (191) 617 184.2 3.4e-048 0.528 0.773 176	This superoxide dismutase of N. crassa is >69% ID over 100 taxa proteins. It is highly unlikely to pose a risk of cross-reactivity.

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38	>EAA31056.2 nuclear transport factor 2 [Neurospora crassa OR74A] MSLDFTAIATQFVAHYYSTFDSDRKNLAGLYRDNSMLTFEGAQSLGAQGITEKLTSLPFQKVKHEYGPPD AQPTATGGIIILVTGQLIVDDEQRPLGYSQAFQLSQDASGQWFVFNDIFKLVLL	gi|21748153|gid|72|putative nuclear transport factor (124) 435 100.8 1.6e-023 0.521 0.832 119 gi|21748151|gid|489|putative nuclear transport facto (125) 431 99.9 2.9e-023 0.533 0.817 120	This nuclear transport factor of *N. crassa* is hypothetical >60% ID over 100 taxa proteins. It us unlikely to pose a risk of cross-reactivity.
39	>ESA43073.1 heat shock protein 88 [Neurospora crassa OR74A] MSVVGVDFGALNTVIAVARNRGVDVITNEVSNRATPSLVGFGPKSRYIGEPAKTQEISNLKNTVGCLKRLA GRTLDDPDVAIEQQFISATLVDVNGEVGAEVTYLGEKRKFSATELIAMFMSKIKQTTQAEVKVAVQELVLSV PAWFTDKQRRSILDAAEIAGLRPLRLINDTTAAALGWGITKLDLPGPEEKPRRVAFVDVGYSNYTCSIVEFKK GELSVKSTACDRHFGGRNFDKALLDHLHKEFLGKYKIDIFTNPKAVCRVLAAAEKLKKILSANQQAPLNIESL MNDIDVRAMITRQEFEAMVEPLLAKVHVPLEQALADAKLTKDDIDIIEVVGGGSRVPSVKERIQAFFGKQLS FTMNQDEAIARGCAFSCAILSPVFKVRDFQVQDIINYPIEFTWEKDADIPDEDTSLVVFNKGNVLPSTKILTFY RKQPFDLEARYTNPEELPGKTSPFIGRFSIKGVHATEGPEDFMICKLKARINIHGILNVESAYYVEDQEVEEEV KDENGDVVMEGDKPKTRKVKKQVRKGELPVVSATPSLDPAAKNAAIEREQAMIMEDKLVADTEEKKNELE TYIYDLRNKLDDQYADLASEEEKEKIRAKLMEVEDWLYDEGDDATKAVYVAKIEEIRALAGPVVQRYFDKVE AERQALQEKLEAEKAAKKAEEEARKAKEAAEKAAQEGAKDDEMTDADAPKPVVEEA	gi|465797105|gid|2027|allergen [Malassezia sympodial (773) 2288 527.6 1.8e-150 0.520 0.768 719 gi|28564467|gid|2027|putative heat shock protein [Ma (773) 2282 526.3 4.6e-150 0.520 0.766 719 gi|1561006361|gid|3077|allergen Der p 28 [Dermatopha (655) 893 209.7 7.8e-055 0.309 0.620 653 gi|1055365842|gid|2591|heat shock-like protein [Tyro (659) 891 209.2 1.1e-054 0.313 0.627 656 gi|685432788|gid|2076|Der f 28 allergen [Dermatophag (654) 887 208.3 2e-054 0.302 0.624 659 gi|442565876|gid|2076|heat shock protein 70 [Dermato (659) 823 193.7 5e-050 0.313 0.605 610 gi|729764|gid|519|Heat shock 70 kDa protein (Allerge (643) 821 193.3 6.7e-050 0.297 0.623 650 gi|94468818|gid|2708|heat shock cognate 70 [Aedes ae (655) 792 186.7 6.7e-048 0.290 0.592 652 gi|14423733|gid|250|Heat shock 70 kDa protein (Aller (503) 637 151.4 2.1e-037 0.299 0.610 541 gi|14423730|gid|61|Heat shock 70 kDa protein (Allerg (152) 159 43.1 2.5e-005 0.323 0.677 96 gi|219806590|gid|1217|tropomyosin [Neptunea polycost (284) 104 30.1 0.39 0.300 0.613 160 gi|685432820|gid|501|Der f 11 allergen [Dermatophago (876) 110 31.2 0.58 0.205 0.563 263 gi|13785807|gid|501|paramyosin-like allergen [Dermat (692) 107 30.5 0.71 0.205 0.559 263 gi|1503215309|gid|2050|tropomyosin alpha-1 chain iso (284) 100 29.2 0.72 0.258 0.577 104	The heat shock protein 88 of *N. crassa* is >71 % ID over 100 taxa and proteins. It is highly unlikely to pose a risk of cross-reactivity.
40	>EAA30149.3 hypothetical protein NCU04937 [Neurospora crassa OR74A] MSLERCTGTESHGNGGQEVEKVEKVREVRCIPVKPPVTPETNSIVLNHDQGCTKQQQQQQQQQQQQQ QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQLVSNTLECLV	gi|170710|gid|151|alpha-type gliadin precursor prote (318) 243 38.2 0.00025 0.585 0.769 65 +- 210 34.7 0.0029 0.673 0.714 49 gi|283476402|gid|1617|alpha/beta gliadin precursor [(281) 241 38.0 0.00026 0.512 0.674 86 gi|1137166044|gid|151|alpha-gliadin, partial [Tritic (293) 238 37.7 0.00034 0.574 0.691 68 gi|21673|gid|151|Alpha/beta gliadin-like protein pro (307) 226 36.4 0.00086 0.487 0.618 76 gi|21757|gid|151|Gliadin-like protein product [Triti (296) 225 36.3 0.0009 0.648 0.704 54 gi|62240392|gid|837|11S globulin precursor [Sinapis (523) 225 36.3 0.0015 0.649 0.684 57 gi|170740|gid|151|gliadin (296) 217 35.4 0.0016 0.630 0.685 54 gi|75317968|gid|154|LMM glutenin 3 (373) 218 35.6 0.0019 0.638 0.724 58 +- 204 34.1 0.0053 0.479 0.662 71 gi|170722|gid|151|pre-alpha-/beta-gliadin A-I (262) 211 34.8 0.0023 0.673 0.735 49 gi|21765|gid|151|Gliadin-like protein product [Triti (313) 213 35.0 0.0023 0.538 0.708 65 +- 211 34.8 0.0027 0.647 0.725 51 gi|170718|gid|151|alpha/beta-gliadin precursor (313) 213 35.0 0.0023 0.647 0.725 51 +- 213 35.0 0.0023 0.538 0.708 65 gi|21761|gid|151|Gliadin-like protein product [Triti (286) 211 34.8 0.0024 0.569 0.690 58	Only one alignment was clear of this *N crassa protein with* >100% ID QQQQQ issue. Highly unlikely to pose a risk of cross-reactivity.
41	>EAA35908.3 inorganic pyrophosphatase [Neurospora crassa OR74A] MEVAPAYEPRSARTLEAALIEKKKEEAAAKVSRVSNKPTLIIRNRATEYLQHPSRRFLQTIHVSPAVTLMRSQ SLVRLQLLAKTRCRPLHFQPQSIRQHSTLLPLPHPRPSSQPHIFHGYGHLPSVQNMPPQFGRPGQSQARTLA SLGGPQSNSTHTPCPVGGGAGTPPPPSAGNGSGGPAQSPNTKPLLGSSTLTRPNITTAISSARTQQIARHLS SSSVATMASQYSVRKVGAPYTLEHRVYIEKDGVPVSPFHDIPLYANAEQTILNMVVEIPRWTNAKQEISKEE LLNPIKQDTKKGKLRFVRNCFPHKGYLWNYGAFPQTWEDPNSIHPETKAKGDNDPLDVCEIGELVGYTGQ VKQVKVLGVMALLDEEETDWKVIVIDVNDPLAPKLNDVEDVERHLPGLIRATNEWFRIYKIPDGKPENQFAF TGECKNKTYAMDVVRECNEAWERLITGKTAPGGVSTTNVTVQHSSSRVAPDQLPPLPPNENLPPAPIDSSI DKWEEISGASA	gi|1561006369|gid|2992|allergen Der p 32 [Dermatopha (391) 1054 200.0 2.9e-052 0.489 0.757 317gi|465793078|gid|1026|allergen [Malassezia sympodial (107) 346 107.9 1.2e-025 0.509 0.717 106 gi|91680609|gid|876|thioredoxin [Aspergillus fumigat (110) 336 104.9 9.5e-025 0.486 0.752 105 gi|19879659|gid|544|thioredoxin-like protein [Fusari (121) 265 84.0 2e-018 0.417 0.676 108 gi|308193268|gid|1776|thioredoxin [Plodia interpunct (106) 254 80.9 1.5e-017 0.411 0.636 107 gi|91680607|gid|793|thioredoxin [Aspergillus fumigat (108) 250 79.7 3.6e-017 0.459 0.753 85 gi|8980491|gid|2278|thioredoxin h [Triticum aestivum (125) 241 77.0 2.8e-016 0.400 0.726 95 gi|66841002|gid|844|thioredoxin h1 protein [Zea mays (128) 230 73.7 2.7e-015 0.350 0.690 100 gi|85701160|gid|63|Protein disulfide-isomerase (PDI) (436) 105 36.1 0.0019 0.258 0.596 89	This inorganic pyrophosphatase of *N. crassa is* 56% ID to over 100 taxa or proteins. It is highly unlikely to pose a risk of cross-reactivity.
42	>EAA33027.3 thioredoxin II [Neurospora crassa OR74A] MFSSRFIRPAASTFARATPRPIITNTPSIASRFFTTSSPKMTVHNIATVAEFKEAIAKHPIVVLDAFATWCGPC KAIAPTVAKWSEEPQFKDTVYFAKFDVDALPDLAQELGIRAMPTFVIFKNGDKADEFVGANPPALLATITKQ L	gi|465793078|gid|1026|allergen [Malassezia sympodial (107) 346 107.9 1.2e-025 0.509 0.717 106 gi|91680609|gid|876|thioredoxin [Aspergillus fumigat (110) 336 104.9 9.5e-025 0.486 0.752 105 gi|19879659|gid|544|thioredoxin-like protein [Fusari (121) 265 84.0 2e-018 0.417 0.676 108 gi|308193268|gid|1776|thioredoxin [Plodia interpunct (106) 254 80.9 1.5e-017 0.411 0.636 107 gi|91680607|gid|793|thioredoxin [Aspergillus fumigat (108) 250 79.7 3.6e-017 0.459 0.753 85 gi|8980491|gid|2278|thioredoxin h [Triticum aestivum (125) 241 77.0 2.8e-016 0.400 0.726 95 gi|66841002|gid|844|thioredoxin h1 protein [Zea mays (128) 230 73.7 2.7e-015 0.350 0.690 100 gi|85701160|gid|63|Protein disulfide-isomerase (PDI) (436) 105 36.1 0.0019 0.258 0.596 89	Thioredoxin of *N. crassa* is >48% ID to 100 proteins taxa and is highly unlikel to pose a risk of cross-reactivity.
43	>EAA31526.1 hypothetical protein [Neurospora crassa] MGNDTLSLLLPRLFLVLSALVALAAAQSGTDCNPIKTSGCPLDIGLTNNPYGVDFTKGTMDQASWTSVGAG SVIYTSQGAVLTLSKKGDAPTISTNWYIFFGRVEVLMRAAPGTGIISSVVLGSDDGDEIDWELIGGNNDEVQ TNYFGKGNVTLYNRGGNSAVHDVQGTRHNYTIDWQIGQLTWYVDGKTVRTLKEEDAVGGLNYPQTPMK LRIGSWAGGDPDNAPGTIAWAGGVTDYTKGPFTMYVERVSVTNRYPAASYSYGDMSGNWDSIVLKKDD AADGNQSKEGIVKKDGSRGVASATNSTSSSSSSSSSSSSS	gi|6136163|gid|199|Venom allergen III (Allergen Sol (211) 79 27.7 0.71 0.281 0.490 96	Extracellular protein of *N. crassa is* > 53% ID for 100 proteins taxa. It is highly unlikely to pose a risk of cross-reactivity
44	>EAA27730.2 glucoamylase [Neurospora crassa OR74A] MDAIYNLKQVLLSNHDFTTSLVSNATDFSTSPLTYFAMHLVSSLLVVGAAFQAVLGLPDPLHEKRHSDIIKRSV DSYIQTETPIAQKNLLCNIGASGCRASGAASGVVVASPSKSSPDYWYTWTRDAALVTKLIVDEFTNDYNTTL QNTIQAYAAAQAKLQGVSNPSGSLSNGAGLGEPKFMVDLQQFTGAWGRPQRDGPPLRAIALIGYGKWL VSNGYADTAKSIIWPIVKNDLAYTAQYWNNTGFDLWEEVNSSSFFTIAASHRALVEGSAFAKSVGSSCSAC DAIAPQILCFQQSFWSNSGYIISNFVNYRSGKDINSVLTSIHNFDPAAGCDVNTFQPCSDRALANHKVVVDS MRFWGVNSGRTAGKAAAVGRYAEDVYYNGNPWYLATLAAAEQLYDAVYVWKKQGSITVTSTSLAFFKD LVPSVSTGTYSSSSSTYTAIINAVTTYADGFVDIVAQYTPSDGSLAEQFDKDSGAPLSATHLTWSYASFLSAA ARRAGIVPPSWGAASANSLPGSCSASTVAGSYATATATSFPANLTPASTTVTPPTQTGCAADHEVLVTFNE KVTTSYGQTVKVVGSIAALGNWAPASGVTLSAKQYSSSNPLWSTTIALPQGTSFKYKYVVVNSDGSVKWE NDPDRSYAVGTDCASTATLDDTWP	gi|302681819|gid|2270|glycoside hydrolase family 15 (576) 1738 402.3 6.5e-113 0.513 0.761 594 gi|455288|gid|129|isoform 9 (339) 103 29.8 0.54 0.381 0.698 63	This glycoamylase of *N. crassa* is >58% id over 100 taxa proteins and it is highly unlikely to represent a risk of cross-reactivity.

	F	G	H
45	>EAA36323.3 hypothetical protein NCU02877 [Neurospora crassa OR74A] MSRRLSIFGRLGRRTSSATESTAISNENDGPEIHGNLAPPPAYTIVDESATADLTAAFDQLSLSNAASDPTVD TCLAHLKLLFAIQSMKEEVGYTDGLWGLWDSLAGPFNHLEHTYADKKKTPSDSKKPLDKNLLEDADKKILEN LSKIREKRWALFLARATQRYEAWWKSLPGSQPLTERDMEEDTSFGYQTFPTDDSATFDWSEDKLPPLDVL MVWHTHMLNPRAFLEDAMLAGLRGFWNRGLPWHLVNAAIDSDFSYNVTDQCKARWTKQTGLSWDN QSDPLVKELQCPRCNTKLSIPWTTCSRPENFHNQAELLDLTGTGYGDGNLQHTCKGCGITICKELLCASKFV KDVEALLGPTNRPIPGTVLEPTTGRPAMVPPEPERSIYPRTFPNRLLKSGCNSIRTKVTTLMTSRPNPTMQD VRVEIEAILGNSTWLREINKYSNPRSAAYKVGRASKLSIRKMMGHYWENFSPFALDLAGAVVRQGIFIEKM YKIDWLHSPSATDTMKRLLLKYARFFTIMQKNPTKMAVPTLDIDLAWHTHQLSPSKYYKYSINTTDKYIDHD DKVEEGRLSEQFEWTSKEYQDTYGEVYSECTCWYCESIRTSHVNSLGQVLGVSKSEKIAEAFHTSEKAKLCP PDKSAHISSHNAVMLHVDPSQPNLTIQDRVRVQLAALHQKRLDDAYAKAKKRAEKKGRTIPPRDAAYYDH WGYPYYMAGPYMYPIWFTPGLYYGWDPGYIAGCGTGANGACAAGTCGGGVAAGGCGGAGGCGGG ASGSACGGGGGGGCGGGGGCGGGGGGGGGGCGGGKLILNENPKYRSRY	gi|291482310|gid|1338|ragweed homologue of Art v 1 p (134) 228 59.0 4.1e-010 0.506 0.612 85 gi|285005079|gid|1338|ragweed homologue of Art v 1 p (164) 214 55.6 5.6e-009 0.375 0.500 152 gi|291197394|gid|1338|ragweed homologue of Art v 1 p (164) 214 55.6 5.6e-009 0.368 0.500 152 gi|291482308|gid|1338|ragweed homologue of Art v 1 p (140) 209 54.6 9.1e-009 0.369 0.497 149 gi|817033923|gid|2551|Par h I precursor [Parthenium (156) 189 49.9 2.6e-007 0.481 0.543 81 gi|116329|gid|2594|RecName: Full=Endochitinase A; Al (280) 167 44.5 2.1e-005 0.462 0.615 65 gi|260401081|gid|2594|chitinase [Zea mays] (278) 152 41.0 0.00023 0.458 0.593 59 gi|17932710|gid|2255|putative chitinase [Musa acumin (318) 124 34.6 0.023 0.411 0.536 56 gi|291482318|gid|1338|ragweed homologue of Art v 1 p (116) 112 32.9 0.027 0.789 0.842 19 gi|494319674|gid|2238|metallothionein type 2 [Coffea (80) 94 30.5 0.098 0.565 0.739 23 gi|929312453|gid|3080|PREDICTED: collagen alpha-2(I) (1356) 123 34.1 0.14 0.361 0.472 108 gi|56550550|gid|445|class IV chitinase [Cryptomeria (281) 111 31.7 0.15 0.338 0.532 77 gi|363805423|gid|1910|RecName: Full=Non-specific lip (51) 76 28.8 0.2 0.412 0.588 34 gi|929097893|gid|3080|PREDICTED: collagen alpha-1(I) (1449) 118 32.9 0.33 0.429 0.571 63 gi|929075511|gid|3080|PREDICTED: collagen alpha-1(I) (1449) 118 32.9 0.33 0.429 0.571 63 gi|14575525|gid|583|putative class I chitinase [Heve (295) 105 30.3 0.41 0.440 0.600 50 gi|291482314|gid|1338|ragweed homologue of Art v 1 p (96) 91 28.7 0.41 0.405 0.541 37 gi|929244458|gid|3080|PREDICTED: collagen alpha-2(I) (1356) 113 31.8 0.68 0.353 0.520 102 gi|14423730|gid|61|Heat shock 70 kDa protein (Allerg (152) 95 28.5 0.71 0.467 0.600 30 gi|1079717942|gid|3017|PREDICTED: collagen alpha-2(I (1355) 112 31.5 0.79 0.336 0.513 113	The hypothetical protein of *N. crassa* is over 46% ID with 100 taxa and proteins. It is highly unlikely to pose a risk of cross-reactivity.
46	>EAA27916.1 hypothetical protein [Neurospora crassa] MVQSSVLGFPRMGVLRDLKKANEAYWADKISQEALLAEGKRLRLAHWKIQKDAGVDIIPSNDFAHYDHVL DHIQLFNAVPERYTSQKLSPLDEYFAMGRGHQKGGVDVPALEMVKWFDSNYHYVKPTLQDNQTFSLAKD PKPVREFLEAKEAGFQTRPVLVGPVSFLALGKADRGSSVDPITLLDKLVPVYVELLKQLKAAGAESVQIDEPVL VFDLRPEVKAAFKPAYEAIAAAGDAVPKVVVATYFGDIVHNFDVLPAFSGAAGLHVDLVRNPEQLEPVLKQL GPNQILSAGVVDGRNIWKNDFAKSLEILQTAVKALGSERVIVATSSSLIHTPHTLASEKKLPSDVYEWFSFAVE KVKEVATLAKAVTEPEAVKAELEANAAAIKARTDSKRTNDPAVKERQAQVTPEQHNRKAPFNTRYAEQKK HLSLPLFPTTTIGSFPQTSEIRVQRNKFTKGEISAEEYERFIEKEIELAVKIQDELDLDVYVHGEPERNDMVQYF GERLNGYVFTTHAWVQSYGSRCVRPPIIVGDISRPAPMTVKESKYAASISKKPMKGMLTGPVTCLRWSFPR VDVHQSVQCQQLALALRDEVVDLEKNGIYVIQVDEPALREGLPLRKGQEREAYLKWAVDSFKLATAGVENS TQIHSHFCYSEFQDFFHAIAALDADVLSIENSKSDAKLLKVFIDEEYPRHIGPGVYDIHSPRVPTLEEFKQRIEE MLAYLKPEQLWINPDCGLKTRKWDEVKGALSHMVEAAKYFREKYANKAMVQSSVLGFPRMGVLRDLKKA NEAYWADKISQEALLAEGKRLRLAHWKIQKDAGVDIIPSNDFAHYDHVLDHIQLFNAVPERYTSQKLSPLDE YFAMGRGHQKGGVDVPALEMVKWFDSNYHYVKPTLQDNQTFSLAKDPKPVREFLEAKEAGFQTRPVLVG PVSFLALGKADRGSSVDPITLLDKLVPVYVELLKQLKAAGAESVQIDEPVLVFDLRPEVKAAFKPAYEAIAAAG DAVPKVVVATYFGDIVHNFDVLPAFSGAAGLHVDLVRNPEQLEPVLKQLGPNQILSAGVVDGRNIWKNDF AKSLEILQTAVKALGSERVIVATSSSLIHTPHTLASEKKLPSDVYEWFSFAVEKVKEVATLAKAVTEPEAVKAEL EANAAAIKARTDSKRTNDPAVKERQAQVTPEQHNRKAPFNTRYAEQKKHLSLPLFPTTTIGSFPQTSEIRVQ RNKFTKGEISAEEYERFIEKEIELAVKIQDELDLDVYVHGEPERNDMVQYFGERLNGYVFTTHAWVQSYGSR CVRPPIIVGDISRPAPMTVKESKYAASISKKPMKGMLTGPVTCLRWSFPRVDVHQSVQCQQLALALRDEVV DLEKNGIYVIQVDEPALREGLPLRKGQEREAYLKWAVDSFKLATAGVENSTQIHSHFCYSEFQDFFHAIAALD ADVLSIENSKSDAKLLKVFIDEEYPRHIGPGVYDIHSPRVPTLEEFKQRIEEMLAYLKPEQLWINPDCGLKTRK	gi|225810599|gid|1206|Sal k 3 pollen allergen [Salso (757) 2368 545.9 6.2e-156 0.499 0.753 761	is This hypothetical cobalabumin of *N. crassa* is >78% identity with 100 taxa proteins. It is hihgly unlikely to pose a risk of cross-reactivity.
47	>EAA32517.2 hsp70-like protein [Neurospora crassa OR74A] MMSTRLTRALPKASIATRAAGMLRKPMTPAFARFESTESNGKVTGSVIGIDLGTTNSAVAIMEGKVPRIIE NAEGARTTPSVVAFTEDGERLVGVAAKRQAVVNPENTLFATKRLIGRKFTDPEVQRDIKEVPYKIVQHTNG DAWVEARGQRYSPSQIGGFILQKMKETAESFLSKPVKNAVVTVPAYFNDSQRQATKDAGQIAGLNVLRVV NEPTAAALAYGLEKEQDRIVAVYDLGGGTFDISVLEIQNGVFEVKSTNGDTHLGGEDFDIHLVRHLVQQFKK ETGIDLSGDRMAIQRIREAAEKAKIELSSSLQTDINLPFITADSSGPKHINQKLTRAQLEAMVDPLIQRTIEPVR KALKDANLQAKEIQEVILVGGMTRMPKVAESVKSIFGRDPAKSVNPDEAVAIGAAIQGAVLSGEVKDLLLLD VTPLSLGIETLGGVFTRLINRNTTIPTKKSQVFSTAADFQTAVEIKVFQGERELVKDNKMLGNFQLVGIPPAH RGVPQIEVTFDIDADSIVHVHAKDKSTNKDQSITIASGSGLSEAEIEKMVEDSEKYAEQDKERKAAIEAANKA DGVLNDTEKALNEYADRLDKTEADAIREKIANLREFIAKSQSGEQALSADALKEKIDDLQVASLNLFDKMHK ARAEAGEQQQQSTEGEKKE	gi|1561006361|gid|3077|allergen Der p 28 [Dermatopha (655) 1891 437.2 2.4e-123 0.502 0.775 628 gi|94468818|gid|2708|heat shock cognate 70 [Aedes ae (655) 1865 431.3 1.5e-121 0.515 0.802 585 gi|685432788|gid|2076|Der f 28 allergen [Dermatophag (654) 1862 430.6 2.4e-121 0.497 0.774 628 gi|1055365842|gid|2591|heat shock-like protein [Tyro (659) 1802 416.9 3.1e-117 0.494 0.773 620 gi|729764|gid|519|Heat shock 70 kDa protein (Allerge (643) 1756 406.4 4.3e-114 0.501 0.779 589 gi|442565876|gid|2076|heat shock protein 70 [Dermato (659) 1527 354.2 2.3e-098 0.455 0.740 578 gi|14423733|gid|250|Heat shock 70 kDa protein (Aller (503) 1467 340.6 2.2e-094 0.477 0.780 505 gi|465797105|gid|2027|allergen [Malassezia sympodial (773) 662 157.0 6.2e-039 0.271 0.597 672 gi|28564467|gid|2027|putative heat shock protein [Ma (773) 656 155.6 1.6e-038 0.271 0.595 672 gi|14423730|gid|61|Heat shock 70 kDa protein (Allerg (152) 114 32.9 0.029 0.298 0.587 121 gi|156938889|gid|1143|group 10 allergen Blo t 10 [Bl (284) 107 30.8 0.23 0.258 0.532 124 gi|80553470|gid|493|tropomyosin [Dermatophagoides pt (281) 102 29.7 0.5 0.250 0.532 124 gi|48249227|gid|1080|tropomyosin [Tyrophagus putresc (284) 98 28.7 0.95 0.242 0.540 124 gi|6900304|gid|623|Lep d 10 protein [Lepidoglyphus d (284) 98 28.7 0.95 0.250 0.532 124 gi|185133405|gid|3036|tropomyosin alpha-1 chain [Sal (284) 98 28.7 0.95 0.287 0.566 120	This heat shock protien 70 of *N. crassa* is >88% ID to 100 taxa proteins. It is highly unlikely to pose a risk of cross-reactivity.
48	>EDO64970.1 peptidyl-prolyl cis-trans isomerase-like 3 [Neurospora crassa OR74A] MSVTLHTTLGDLKIEIFCESVPKTAENFLALCASGYYNASPFHRMIPSFMVQTGAPANPSPPENPKGGRSIY GPTFEDEIRPVLRHNERGIVSMANKGPNTNGSQFFILFDKAPHLDGLNTVFGKLIGDESLQTLAKLEGLEVDK KNRIKEEVRIERVTVHANPLAK	gi|37958141|gid|951|Der f Mal f 6 allergen [Dermatop (164) 366 92.5 8.8e-021 0.493 0.716 134 gi|5019414|gid|325|PPIase [Aspergillus fumigatus] (178) 355 89.9 5.6e-020 0.447 0.674 141 gi|4138173|gid|651|allergen [Malassezia sympodialis] (162) 354 89.7 5.9e-020 0.459 0.651 146 gi|1220142|gid|1926|cyclophilin [Catharanthus roseus (172) 335 85.4 1.3e-018 0.414 0.650 157 gi|91680605|gid|863|cyclophilin [Aspergillus fumigat (163) 331 84.4 2.3e-018 0.451 0.699 133 gi|373939374|gid|1941|cyclophilin [Daucus carota] (171) 328 83.7 3.9e-018 0.441 0.650 143 gi|1373739558|gid|2869|cyclophilin 0101 [Olea europa (172) 325 83.1 6.4e-018 0.465 0.659 129 gi|21886603|gid|344|peptidylprolyl isomerase (cyclop (173) 324 82.8 7.5e-018 0.433 0.652 141	This cyclophilin of *N. crassa* is >77% ID to 100 taxa proteins. It is highly unlikely to cause cross-reativity.

	F	G	H
49	>EAA30681.1 VACUOLAR PROTEASE A PRECURSOR [Neurospora crassa] MKGALLTAAMLLGSAQAGVHTMKLKKVPLAEQLESVPIDVQVQHLGQKYTGLRTESHTQAMFKATDAQV SGNHPVPITNFMNAQYFSEITIGTPPQTFKVVLDTGSSNLWVPSSQCGSIACYLHNKYESSESSTYKKNGTSF KIEYGSGSLSGFVSQDRMTIGDITINDQLFAEATSEPGLAFAFGRFDGILGLGYDRIAVNGITPPFYKMVEQK LVDEPVFSFYLADQDGESEVVFGGVNKDRYTGKITTIPLRRKAYWEVDFDAIGYGKDFAELEGHGVILDTGT SLIALPSQLAEMLNAQIGAKKSWNGQFTIDCGKKSSLEDVTFTLAGYNFTLGPEDYILEASGSCLSTFMGMD MPAPVGPLAILGDAFLRKYYSIYDLGADTVGIATAKR	gi|695094784|gid|2271|aspartyl endopeptidase [Rhizop (401) 1344 312.7 2.6e-086 0.487 0.769 398 gi|1218215869|gid|2709|lysosomal aspartic protease [(387) 1131 264.2 1e-071 0.459 0.732 377 gi|118572685|gid|1618|RecName: Full=Pepsin A; Flags: (385) 915 214.9 6.7e-057 0.387 0.729 380 gi|963013|gid|324|aspergillopepsin i [Aspergillus fu (395) 406 98.9 5.8e-022 0.288 0.624 340 gi|1176397|gid|352|aspartic protease precursor [Blat (352) 403 98.3 8.2e-022 0.302 0.598 321 gi|62738637|gid|352|Chain A, The Structure Of Mutant (330) 401 97.8 1e-021 0.302 0.598 321 gi|315113421|gid|352|Chain A, Crystal Structure Of B (334) 401 97.8 1.1e-021 0.302 0.598 321 gi|145105726|gid|352|Bla g 2 allergen variant [Blatt (352) 397 96.9 2.1e-021 0.299 0.598 321 gi|313870534|gid|854|Per a 2 allergen [Periplaneta a (351) 362 88.9 5.3e-019 0.255 0.578 325 gi|60678785|gid|854|Per a 2 allergen [Periplaneta am (351) 345 85.0 7.8e-018 0.252 0.566 325 gi|293329689|gid|1747|pollen allergen CPA63 [Cryptom (472) 151 40.7 0.00023 0.236 0.537 365 gi|544619|gid|722|36 kda allergen [peptide 143-115] (25) 61 24.5 0.95 0.500 0.833 18	This *N. crassa* vacuolar protease is >69% ID with 100 taxa proteins. It is highly unlikely to pose a risk of cross-reactivity.
50	>EAA31956.1 hypothetical protein ((AL451018) related to SORBITOL UTILIZATION PROTEIN SOU1 [Neurospora crassa]) MAAEMKDGRFAHDITVAPQTNSVMSLFSLKGKTAIVTGAAAGIGYGVAEAFAEAGANVAIWYNSNKKAL DAAADIEKRYGVKCKAYQVNVTSLEAVESAVTEIVKEFNGRLDIFVANSGIPWTDGAALDGPPESYKRVMA TNVDGTFWCAQVAGRHWRRQKQEGTTMDGKKLEGFTYGSFIATASMSGHIANIPQLQAVYNASKAAVI HLCRSLAVEWVGFARANTISPGYIRTDISEFCSPEVKNAWKDKIPMGREGEVNELKGAYLYFASDASSYTTG ADLLVDGGYCAP	gi|118595439|gid|783|Probable NADP-dependent mannito (266) 497 119.9 1.4e-028 0.482 0.750 276 gi|37780013|gid|783|NADP-dependent mannitol dehydrog (266) 497 119.9 1.4e-028 0.486 0.750 280 gi|37780015|gid|799|NADP-dependent mannitol dehydrog (267) 496 119.7 1.7e-028 0.486 0.754 276 gi|171853012|gid|2371|seed maturation-like protein p (345) 168 44.8 7.3e-006 0.296 0.589 297	Sorbitol utilizing protein with >69% identiety for 100 taxa proteins
51	>ESA42967.1 hypothetical protein, variant [Neurospora crassa OR74A] MEDFGAAEEQAQQPNNAHDETRQSRTTTPSAHTSAHPSPPQPQQPQTGPSVSTPASAPVSGPSTLTPGP PPSDTGADAGSEPVNPRKRKKASRACDFCHVNHQPCDNGQPKCSVCTKHNKPCLYLRPTKRRGPQKGYRT ALNTYKESAAAWGAVLGAIPGLDALIEGHLRAAGTQGKQIIASIKDANAQEGLIARWQGSGVFRAFFGAV RPGTAGGMGGGGEDGGREGSSALTQDGEQEDEEMSGLGVGSPSVAAQGVLGGQAPPAKRFARETEQ RRQVARDLAQLQQQQQQQQQQQQQQQQQQQQQQQLQQQQQQQQQQQQQLQQRQSVAAEAGLAGG GEGGRRASISPTKSPAPSVSVPPPPILQPATTATTTTMTTTTTPAPRPVPVTSTSKGIPTLNTLNTLNTITTPP NFTINDSTLSDIVAKDAAQSSSRESQTLRPLGFAPDETIADFYSMGANPDPIMSAMSMSHHHHQYHHPLG GPNGSSSKNFNDNFNGGGSGGGGRGGGGGGGNGSINGNGNGNDYGGTYHGGIGGSGGGGGGGGA AAGDADDDFLLFDSEQRAYYELLMGRSFG	gi|508732625|gid|160|high molecular weight glutenin (794) 276 41.7 0.00029 0.217 0.465 544 gi|170743|gid|160|HMW glutenin subunit Ax2* [Triticu (815) 276 41.7 0.00029 0.217 0.465 544 gi|170710|gid|151|alpha-type gliadin precursor prote (318) 220 35.8 0.0068 0.481 0.667 81 gi|283476402|gid|1617|alpha/beta gliadin precursor [(281) 209 34.7 0.013 0.475 0.713 80 gi|1137166044|gid|151|alpha-gliadin, partial [Tritic (293) 202 34.0 0.022 0.486 0.581 74 gi|285005079|gid|1338|ragweed homologue of Art v 1 p (164) 191 32.7 0.03 0.410 0.614 83 gi|291197394|gid|1338|ragweed homologue of Art v 1 p (164) 191 32.7 0.03 0.410 0.614 83 gi|291482310|gid|1338|ragweed homologue of Art v 1 p (134) 186 32.2 0.035 0.444 0.708 72 gi|71084277|gid|160|HMW glutenin x-type subunit Bx7 (795) 207 34.7 0.037 0.239 0.481 360 gi|170718|gid|151|alpha/beta-gliadin precursor (313) 194 33.2 0.042 0.429 0.626 91 gi|21765|gid|151|Gliadin-like protein product [Triti (313) 194 33.2 0.042 0.429 0.626 91 gi|291482308|gid|1338|ragweed homologue of Art v 1 p (140) 184 32.0 0.042 0.423 0.603 78 gi|21743|gid|160|high molecular weight glutenin subu (830) 205 34.5 0.044 0.226 0.462 563 gi|21673|gid|151|Alpha/beta gliadin-like protein pro (307) 192 33.0 0.047 0.500 0.614 70 gi|21757|gid|151|Gliadin-like protein product [Triti (296) 184 32.1 0.08 0.577 0.692 52 gi|170722|gid|151|pre-alpha-/beta-gliadin A-I (262) 181 31.8 0.089 0.449 0.577 78 gi|21761|gid|151|Gliadin-like protein product [Triti (286) 181 31.8 0.096 0.484 0.609 64 gi|258588247|gid|1572|Chain A, Crystal Structure Of (531) 187 32.6 0.11 0.434 0.684 76 gi|307159112|gid|1572|prunin 1 precursor [Prunus dul (551) 187 32.6 0.11 0.434 0.684 76 gi|21755|gid|151|Alpha/beta gliadin-like protein pro (286) 177 31.4 0.13 0.484 0.594 64 gi|170720|gid|151|alpha/beta-gliadin precursor [Trit (286) 177 31.4 0.13 0.484 0.594 64 gi|170740|gid|151|gliadin (296) 176 31.3 0.14 0.558 0.673 52 gi|170728|gid|151|alpha-type gliadin (186) 169 30.5 0.16 0.659 0.756 41	This hypothetical protein of *N. crassa* is >49% ID to 100 taxa proteins. It is highly unlikely to cause cross-reactivity.
52	>EAA34525.1 hypothetical protein [Neurospora crassa] MTDKGQFEKGHNIPVTHQSFPGMETEMPNPQPLWDEIPTADGKSQKYRAAGKLKGKKAIITGGDSGIGR ASAILFAMEGADSVIAYLPEEEEDAQETKRRVEAYGQKCHLVSTDLRDRENCKKLVDEAVKIFNGQIDILFNN AAYQMVVDDIKDLSEDQWINTFNTNIHPYFYLAKYSLPYMKRGSTIINNASINAYIGRPDLLDYTSTKGAIVA FTRGLSNQQAGKGIRVNAVAPGPVWTPLIPSTMKRENQEQFGSTPLGRPAQPSEVATAVVFLASEDSSAFS GQTLHPNMGTVVSG	gi|171853012|gid|2371|seed maturation-like protein p (345) 828 195.2 3.9e-051 0.478 0.763 291 gi|118595439|gid|783|Probable NADP-dependent mannito (266) 327 81.1 6.8e-017 0.289 0.630 270 gi|37780013|gid|783|NADP-dependent mannitol dehydrog (266) 326 80.9 7.9e-017 0.289 0.630 270 gi|37780015|gid|799|NADP-dependent mannitol dehydrog (267) 294 73.6 1.2e-014 0.292 0.624 250	This oxidoreductase of *N. crassa* is >69% ID over 100 taxa proteins. It is highly unlikely to cause cross-reactivity.
53	>EAA34668.2 endothiapepsin [Neurospora crassa OR74A] MLLFPTILTAALAATGMAAAIPSRDDTTANKGTASLLQVRNPSFEFRHGPLALAKAYQKFGAPMPEDLRAA IARFRQNQKRTTGTIATDPEKHDVEYLTPISVGTPSQDLVVDFDTGSSDLWVFSTEMSTSDIKGQTVYDPNN SSTSEKVQGSTWKITYGDGSSSSGDVYLDTVTIGNLTVPSQAVEAAKKVSSEFTDDSHNDGLLGLGFSAINA VEPTPQNTFFDNIKGSLDAPLFTVDLKHGTPGSFNFGYIDPAAYIGNISWTPVDSSQGYWGFTSPGYAVGT GAFRNHSISGIADTGTTLLLLPKSVVSAYYKEIQGAQYDSDQGGYIFPCSPTPPDFVFGVNKGIVTVPGDMVS YAPADSANQNCFGGIQTDTGIGFSIFGDVALKTSFVVFDAGGLQLGWAAKNL	gi|963013|gid|324|aspergillopepsin i [Aspergillus fu (395) 1253 292.0 4.6e-080 0.474 0.793 411 gi|118572685|gid|1618|RecName: Full=Pepsin A; Flags: (385) 502 120.8 1.5e-028 0.340 0.627 335 gi|1218215869|gid|2709|lysosomal aspartic protease [(387) 482 116.2 3.6e-027 0.346 0.611 355 gi|695094784|gid|2271|aspartyl endopeptidase [Rhizop (401) 426 103.5 2.6e-023 0.305 0.575 325 gi|145105726|gid|352|Bla g 2 allergen variant [Blatt (352) 191 49.9 3e-007 0.224 0.525 326 gi|1176397|gid|352|aspartic protease precursor [Blat (352) 185 48.6 7.8e-007 0.218 0.525 326 gi|83300369|gid|320|Allergen Asp f 4 precursor (322) 113 32.2 0.061 0.235 0.489 221 gi|3005839|gid|320|rAsp f 4 [Aspergillus fumigatus] (286) 111 31.8 0.072 0.235 0.489 221 gi|666434194|gid|320|allergen Asp F4 [Aspergillus fu (322) 111 31.7 0.083 0.235 0.489 221	This pepsin like precursor of *N. crassa* is >61% ID for 100 taxa/proteins. It is highly unlikely to cause cross-reactivity.

	F	G	H
54	>EAA30582.1 hypothetical protein [Neurospora crassa] MVRFSVAAAFLLSALGVTAAPSGGRHNHQNTQNTGATAGNAAGVPVANSDISNIIPGRYIVVYNNTFGEE AINAHQIKVTSLVAKRNLGKRDAKTGRIMSPSVKAFKMGTWRAMALDADDDMINDINSAQEVEYIEADQ YVKLNALTSQNSTTTGLARLSHAGPSKKAAPYIFDSSAGEGITAFVVDTGIRVTHSEYEGRATFAANFVNNV DTDENGHGSHVAGTIAGATFGVAKKAKLVAVKVLDGSGSGSNSGVLQGMQFVADTATSQKLGGKAVLN MSLGGGKSRAINSAINQIAAAGVVPVVAAGNENQDTANTSPGSAPAAITVGAIDQRTDARASFSNFGAG VDIFAPGVNVLSVGIKSDTDTDTLSGTSMASPHVAGLAAYLMALEGLTDVTAVGNRIKELAQKTGAKVTNN VRGTTSLIANNGNL	gi|129235|gid|317|Oryzin precursor (Alkaline protein (403) 1067 249.6 2.9e-067 0.456 0.749 399 gi|74665726|gid|317|Allergen Asp fl 1 (403) 1062 248.4 6.4e-067 0.454 0.749 399 gi|2295|gid|2227|uncleaved alkaline protease (ALP) [(403) 1045 244.5 9.5e-066 0.461 0.757 399 gi|294441150|gid|2457|extracellular alkaline serine (403) 1037 242.7 3.3e-065 0.456 0.747 399 gi|3549630|gid|2227|alkaline protease, partial [Aspe (341) 988 231.6 6.3e-062 0.483 0.776 348 gi|5813790|gid|313|Tri r 2 allergen [Trichophyton ru (412) 946 222.0 6e-059 0.427 0.733 389 gi|23894244|gid|313|tri m 2 allergen [Arthroderma be (404) 925 217.2 1.6e-057 0.425 0.723 400 gi|21069093|gid|244|alkaline serine protease [Penici (398) 923 216.7 2.2e-057 0.430 0.718 393 gi|74663809|gid|313|RecName: Full=Subtilisin-like pr (405) 923 216.7 2.2e-057 0.424 0.721 401 gi|4587983|gid|244|Pen c 1; alkaline serine protease (397) 909 213.5 2e-056 0.420 0.728 393 gi|6684758|gid|244|allergen Pen n 13 [Penicillium ch (397) 902 212.0 6e-056 0.417 0.725 393 gi|23894240|gid|313|tri m 2 allergen [Arthroderma be (292) 825 194.5 7.9e-051 0.491 0.751 293 gi|54654335|gid|833|vacuolar serine protease [Rhodot (342) 810 191.0 1e-049 0.479 0.754 284 gi|7963902|gid|243|allergen Pen n 18 [Penicillium ch (494) 766 180.9 1.7e-046 0.387 0.652 411 gi|14215732|gid|243|vacuolar serine protease [Penici (494) 766 180.9 1.7e-046 0.387 0.652 411 gi|12005501|gid|243|vacuolar serine protease [Penici (358) 707 167.5 1.3e-042 0.435 0.712 292 gi|636530596|gid|3038|subtilisin-like serine proteas (507) 602 143.5 3.1e-035 0.365 0.662 417 gi|193507493|gid|2241|subtilisin-like serine proteas (506) 590 140.8 2.1e-034 0.358 0.671 416 gi|289172|gid|318|serine protease (533) 586 139.9 4.1e-034 0.403 0.672 372 gi|148361511|gid|1376|vacuolar serine protease [Clad (388) 581 138.8 6.2e-034 0.415 0.680 316 gi|2143220|gid|318|cellular serine proteinase [Asper (495) 580 138.5 9.7e-034 0.396 0.664 414 gi|4588118|gid|243|alkaline serine protease Pen c2 [(457) 579 138.3 1e-033 0.376 0.660 415 gi|60116876|gid|1227|vacuolar serine protease [David (518) 579 138.3 1.2e-033 0.367 0.648 412 gi|12005497|gid|243|vacuolar serine protease [Penici (503) 577 137.8 1.6e-033 0.388 0.672 415 gi|739057410|gid|2857|vacuolar serine protease, part (386) 545 130.6 1.8e-031 0.426 0.696 296 gi|11127680|gid|1171|subtilisin precursor [Bacillus (374) 518 124.4 1.3e-029 0.377 0.685 308 gi|135016|gid|1171|RecName: Full=Subtilisin Carlsber (379) 511 122.8 3.9e-029 0.373 0.672 308 gi|267048|gid|1174|RecName: Full=Subtilisin Savinase (269) 482 116.4 2.4e-027 0.389 0.663 270 gi|1225905|gid|1175|prepro AprM [Bacillus sp.] (361) 361 88.7 7.1e-019 0.384 0.669 245	Hypothetical alkaline protease >59% ID over 100 taxa / protrins
55	>EAA27598.1 hypothetical protein [Neurospora crassa] MDIRGNLFGKKPQTPQGGAGLPGRPVQQAAGGGYGGGATPTNYGSPGGRAPSQPQYSGSGAGGYGG APSEKSYGGGGGGGYGGQPAPGGYPSQPAGRGVPLRLAKVDDKTLQSLYIFGNICAVSPNDFPPNHDGT DLYIRLTGRQLRGDYVVTARPTPGFRPGHISLSDPQRTWCGVGMMDELMGEVYDPFARGGDAYIGSMD VEIGFASTNRIVDTPYDQDELAKVFLKTFQNQVFAPGQRFLLDVKNIPLAVMVKTVTLVDLTMLGSGEAPTR SDPGARGILTNQASIGFYKDARSPIKLKGSNKRPAANAIIAPDFKFENMGIGGLDTEFSTIFRRAFASRIFPPG LIEKLGIMHVKGMLLYGPPGTGKTLIARQIGKMLNAREPKVINGPEVLNKYVGQSEENIRKLFADAEKEYKEK GDESGLHIIIFDELDAVCKQRGSGAGGGTGVGDSVVNQLLSKLDGVDQLNNILLIGMTNRKDMIDDALLRP GRLEVQIEISLPDEHGRGQILKIHTSKMKENKVMADDVDLAELATLTKNFSGAELSGLVKSATSYAFSRHIKV GTMAGVSEDVANMKVNRQDFLNALDEVKPAFGADESELEKHLAYGVIHYSKSITSILEDGLLYVNNVRKLER LKHMTVLLHGPSASGKTALAAHIAMKSDFPFIKFITPTDMVGFRDEVAKKDYMHKIFTDAYKSPLSLLIIDNIE RIIEWNPVGPRLSNTILQALVTLLVTPPPKGHRLLILATTSQRTVMEQLDVTESFDYQIAVPAVNNLQELGAV LNEVGAFGGDQAAVSEVLNTLREYTGSDSVGVGVRTILTIAESADTSPDPKGWFVEKMAGLIARYNVR	gi|817033923|gid|2551|Par h I precursor [Parthenium (156) 194 43.2 3e-005 0.463 0.538 80 gi|291482310|gid|1338|ragweed homologue of Art v 1 p (134) 164 38.3 0.00078 0.383 0.531 81 gi|285005079|gid|1338|ragweed homologue of Art v 1 p (164) 167 38.5 0.00078 0.363 0.538 91 gi|291197394|gid|1338|ragweed homologue of Art v 1 p (164) 167 38.5 0.00078 0.363 0.538 91 gi|291482308|gid|1338|ragweed homologue of Art v 1 p (140) 164 38.2 0.00084 0.367 0.544 90 gi|1079717864|gid|3017|PREDICTED: collagen alpha-1(I (1449) 173 37.2 0.018 0.382 0.578 102 gi|929312453|gid|3080|PREDICTED: collagen alpha-2(I) (1356) 166 36.0 0.036 0.302 0.511 182 gi|1079717942|gid|3017|PREDICTED: collagen alpha-2(I (1355) 165 35.9 0.041 0.255 0.442 419 gi|929244458|gid|3080|PREDICTED: collagen alpha-2(I) (1356) 164 35.7 0.046 0.261 0.489 348 gi|92909789|gid|3080|PREDICTED: collagen alpha-1(I) (1449) 165 35.8 0.046 0.323 0.626 99 +- 169 36.5 0.029 0.270 0.510 200 gi|736319|gid|160|glutenin [Triticum aestivum] (838) 156 34.9 0.05 0.336 0.517 116 gi|288860106|gid|160|high molecular weight glutenin (848) 156 34.9 0.051 0.336 0.517 116 gi|170743|gid|160|HMW glutenin subunit Ax2* [Triticu (815) 152 34.2 0.076 0.250 0.457 208 gi|929075511|gid|3080|PREDICTED: collagen alpha-1(I) (1449) 140 31.6 0.86 0.326 0.652 92 +- 144 32.3 0.54 0.356 0.485 101 +- 142 31.9 0.68 0.248 0.463 335 +- 142 31.9 0.68 0.371 0.584 89 +- 142 31.9 0.68 0.330 0.588 97	Vesicular fusion protein >60% ID over 100 taxa proteins
56	>EAA27313.1 hypothetical protein [Neurospora crassa] MRPILLSGHERALTQIKYNRDGDLLFSVSKDQQICVWFAHNGERLGTYHGHQGAIWTIDVDPTSTILASGS ADNTIRLWEIKTGRLLKTWDFPTAVKRVEFSEDGSKLLGVTEKRMGHLGTIVVLDIKLDVDAEQSDEKAMTI VCEDSKATVAGWSYLSKYIIAGHEDGSVSQFDGKNGDLLYNIPIHELNQPITDLQWSHDRTYFITASKDKTSK LITAKDLEVLKTYPADTPLNSATITRKKDFVILGGGQAAMDVTTTSARQGKFEARFYHKIFESEIGRVRGHFG PLNTVAADPTGKSYASGGEDGYVRIHHFDKGYEDEMYEVEREPQNKLNQQQQQTISA	gi|188572343|gid|1248|eukaryotic translation initiat (325) 1034 242.2 3.2e-065 0.460 0.759 328	Translation initiation factor >83% ID to 100 taxa proteins

	F	G	H
57	>EAA35497.1 hypothetical protein [Neurospora crassa] MVTEKSPIIIAPGQKGIRKPTPDIEGHSPATYKQPRGGSLGCFMRGALGFLLILHEQTTGVAAQSFDPTRLPT TLVSKAPVVSPTWKSPPAVTPTSKPPPAVGPTSIASSVPIPRSSSITGTSNPTSTPPNPTPIPLVITNSCPDTIWP GIGTQNGIGPEVGGFELAPGETKPLFVSPDWQGRVWGRTNCSFNADGTGPSNLNGVNGNGAACMTGD CFGRLNCEFTGQVPVTLAEFNLLGGINSDQTFYDISLVDGYNLPLGIIYIPAANTTWIPPNLTNCVCIASAGFL DPPSRSGLYYTNKTFPIPWESDQTNPSVGGWCPWDLQEYPPSKPGDGIYPYPDDSIQRPVFDPCLSACAAT GNPEDCCTGKYDDPSVCTPSLYSENAKTVCPDAYSYAFDDQTSTFIIPNGGGWEVVFCPRGRSTNILRIFGE ELRTIASGGGLTREILERVRNRTYIESANSKGLGGAGMVQRPGAGVFGVVALMWMWMVFWC	gi|1144346|gid|240|thaumatin-like protein precursor (245) 258 51.0 1.2e-007 0.345 0.546 284 gi|190613905|gid|1884|putative allergen Pru du 2.01A (246) 245 49.1 4.6e-007 0.337 0.542 288 gi|190613907|gid|1884|putative allergen Pru p 2.01A (246) 243 48.8 5.7e-007 0.340 0.538 288 gi|60418842|gid|658|thaumatin-like protein precursor (246) 243 48.8 5.7e-007 0.333 0.535 288 gi|60418848|gid|658|thaumatin-like protein precursor (246) 243 48.8 5.7e-007 0.333 0.535 288 gi|190613911|gid|1884|putative allergen Pru p 2.01B (246) 242 48.6 6.3e-007 0.333 0.535 288 gi|25091405|gid|1884|RecName: Full=Thaumatin-like pr (246) 240 48.3 7.7e-007 0.337 0.535 288 gi|190613909|gid|1884|putative allergen Pru du 2.01B (246) 239 48.2 8.6e-007 0.333 0.545 288 gi|3643249|gid|658|thaumatin-like protein precursor (245) 238 48.0 9.5e-007 0.333 0.535 288 gi|30316292|gid|658|Thaumatin-like protein 1a precur (246) 238 48.0 9.5e-007 0.333 0.535 288 gi|359744030|gid|1884|thaumatin-like protein 2 [Prun (246) 236 47.7 1.2e-006 0.340 0.538 288 gi|190613903|gid|1884|putative allergen Pru p 2.02 [(242) 231 47.0 1.9e-006 0.330 0.516 285 gi|25091406|gid|1884|RecName: Full=Thaumatin-like pr (242) 231 47.0 1.9e-006 0.330 0.516 285 gi|139002766|gid|1034|thaumatin-like protein [Crypto (225) 223 45.7 4.2e-006 0.343 0.488 283 gi|38456222|gid|615|PR5 allergen Jun r 3.1 precursor (225) 221 45.5 5.2e-006 0.322 0.477 283 gi|38456224|gid|615|PR5 allergen Jun r 3.2 precursor (225) 221 45.5 5.2e-006 0.322 0.477 283 gi|9087177|gid|615|Pathogenesis-related protein prec (225) 221 45.5 5.2e-006 0.322 0.484 283 gi|190613941|gid|1884|putative allergen Pru du 2.02 (241) 219 45.2 6.6e-006 0.319 0.523 285 gi|392507603|gid|658|pathogenesis related protein 5, (193) 214 44.3 9.5e-006 0.326 0.519 258 gi|135917|gid|1720|RecName: Full=Thaumatin-like prot (173) 213 44.2 9.8e-006 0.452 0.661 124 gi|88191901|gid|750|Chain A, Resolution Of The Struc (200) 212 44.1 1.2e-005 0.314 0.473 283 gi|9929163|gid|454|Cup a 3 protein [Cupressus arizon (199) 211 43.9 1.3e-005 0.314 0.481 283 gi|38456226|gid|454|PR5 allergen Cup s 3.1 precursor (225) 211 44.0 1.4e-005 0.318 0.481 283 gi|441482370|gid|48|thaumatin-like protein [Actinidi (225) 209 43.7 1.8e-005 0.310 0.467 287 gi|663434113|gid|1969|RecName: Full=Thaumatin-like p (207) 207 43.3 2.1e-005 0.329 0.481 283 gi|38456228|gid|454|PR5 allergen Cup s 3.2 precursor (225) 206 43.2 2.4e-005 0.314 0.481 283 gi|449061783|gid|1670|RecName: Full=Thaumatin-like p (226) 202 42.6 3.7e-005 0.332 0.470 283 gi|16609959|gid|406|osmotin-like protein [Capsicum a (246) 200 42.4 4.8e-005 0.325 0.500 286 gi|71057064|gid|48|thaumatin-like protein [Actinidia (225) 191 41.0 0.00011 0.303 0.456 287 gi|146737976|gid|48|thaumatin-like protein [Actinidi (201) 189 40.6 0.00013 0.304 0.466 283 gi|218059715|gid|658|thaumatin-like protein [Malus x (158) 137 32.8 0.023 0.317 0.486 218	Hypotheitcal thaumatin family protein >57% ID over 100 taxa
58	>ESA42117.1 hypothetical protein NCU12078 [Neurospora crassa OR74A] MDPRLKTITISNPNTTPSNTTITAPSTTITLIPTTSSPPTSTTTSITPSATSTLSPLKTPSSTTSSPLGSATYTTSSKP TLWLSASNTSTTPDSGKLIPISSGTSCR	gi|78128018|gid|509|group 15 allergen protein [Derma (558) 170 50.8 6.9e-008 0.451 0.626 91 gi|5815436|gid|509|98kDa HDM allergen [Dermatophagoi (555) 160 48.2 4.2e-007 0.392 0.676 74 gi|67975089|gid|509|group 15 allergen protein short (532) 140 42.9 1.5e-005 0.441 0.627 59 gi|970836006|gid|2515|Der f 23 allergen [Dermatophag (174) 125 39.2 6.5e-005 0.325 0.627 83 gi|83300389|gid|321|Allergen Asp f 7 precursor (270) 100 32.6 0.01 0.312 0.615 109 gi|666431137|gid|321|allergen Asp F7 [Aspergillus fu (270) 100 32.6 0.01 0.312 0.615 109 gi|162811|gid|376|kappa-casein precursor (190) 88 29.5 0.059 0.306 0.694 49 gi|27881412|gid|376|kappa-casein precursor [Bos taur (190) 83 28.2 0.15 0.286 0.694 49 gi|455288|gid|129|isoform 9 (339) 86 28.9 0.16 0.259 0.635 85 gi|1026943499|gid|2590|Chain A, Solution Structure O (95) 74 26.0 0.34 0.287 0.575 87 gi|752855036|gid|2590|non-specific lipid transfer pr (120) 74 25.9 0.44 0.287 0.575 87 gi|1064302992|gid|2590|RecName: Full=Non-specific li (120) 70 24.8 0.93 0.259 0.533 88	1 protein 100% match N crassa hypothetical protein
59	>EAA26733.1 hypothetical protein [Neurospora crassa] MGKRKKSSRKPQGPRRNDPLPTVFTCLFCNHERSVIVKLDKKAGVGYLDCKICGQKFQCPVNYLDAAVDVY SAWVDAADAVAQEAEASAKAASYSNSRSTGGRPAASSRRAADIDEDDEDDDRGYGGSGVEVDDDDYD	gi|827354784|gid|2463|EIF1 superfamily transcription (89) 252 72.4 4.4e-015 0.451 0.671 82 gi|5777795|gid|520|minor allergen, ribosomal protein (111) 77 26.7 0.31 0.271 0.627 59 gi|6686524|gid|331|rAsp f 8 [Aspergillus fumigatus] (111) 71 25.1 0.92 0.256 0.667 39	Hypothetical protein >53% ID to top 100 taxa and proteins

<table>
<tr><th></th><th>F</th><th>G</th><th>H</th></tr>
<tr><td>60</td><td>>EAA28148.1 hypothetical protein [Neurospora crassa]
MKLSAVLALLPLAMAAPSAPIDKRAPILEARAGTQAVPGKYIVKLRETASDDDLDKAVKKLGNSKADHVYKH
AFRGFAGRIDDKTLDDIRSLPEVEYVEQEAVFTINTYTSQSSVPSWGLARLSSKTTGKTTYVYDSSAGAGTCA
YIIDTGINTAHSDFGGRATWLANYAGDGINSDGNGHGTHVAGTVGGTTYGVAKKTQLYAVKVLDSNGSG
SNSGVIAGMNFVAQDAQSRNCPNGTVANMSLGGGYSASTNSAAAAMVRAGVFLAVAAGNDGANAA
NYSPASEPTVCTVGATTSADAIAYYSNYGTIVDIFAPGTSITSAWIGSTTAKNTISGTSMATPHITGLGAYLLT
LLGKKSPAALCSYIASTANSGVISGIPRGTVNKLAFNGNPSAY</td><td>i|4587983|gid|244|Pen c 1; alkaline serine protease (397) 1073 251.0 1e-067 0.450 0.740 393
gi|21069093|gid|244|alkaline serine protease [Penici (398) 1061 248.2 6.7e-067 0.445 0.746 398
gi|6684758|gid|244|allergen Pen n 13 [Penicillium ch (397) 1060 248.0 7.8e-067 0.445 0.738 393
gi|5813790|gid|313|Tri r 2 allergen [Trichophyton ru (412) 1033 241.8 5.8e-065 0.476 0.706 412
gi|23894244|gid|313|tri m 2 allergen [Arthroderma be (404) 1025 240.0 2e-064 0.473 0.722 406
gi|74663809|gid|313|RecName: Full=Subtilisin-like pr (405) 1020 238.9 4.4e-064 0.474 0.719 409
gi|2295|gid|2227|uncleaved alkaline protease (ALP) [(403) 994 232.9 2.7e-062 0.456 0.754 386
gi|3549630|gid|2227|alkaline protease, partial [Aspe (341) 990 232.1 4.1e-062 0.495 0.793 319
gi|294441150|gid|2457|extracellular alkaline serine (403) 970 227.5 1.2e-060 0.449 0.730 385
gi|23894240|gid|313|tri m 2 allergen [Arthroderma be (292) 963 226.0 2.4e-060 0.546 0.747 293
gi|74665726|gid|317|Allergen Asp fl 1 (403) 958 224.7 7.9e-060 0.425 0.723 386
gi|129235|gid|317|Oryzin precursor (Alkaline protein (403) 958 224.7 7.9e-060 0.425 0.723 386
gi|54654335|gid|833|vacuolar serine protease [Rhodot (342) 826 194.7 7.4e-051 0.457 0.716 324
gi|7963902|gid|243|allergen Pen n 18 [Penicillium ch (494) 772 182.3 5.8e-047 0.401 0.646 444
gi|14215732|gid|243|vacuolar serine protease [Penici (494) 772 182.3 5.8e-047 0.401 0.646 444
gi|12005501|gid|243|vacuolar serine protease [Penici (358) 764 180.5 1.4e-046 0.482 0.707 307
gi|135016|gid|1171|RecName: Full=Subtilisin Carlsber (379) 475 114.7 1e-026 0.321 0.668 364
gi|11127680|gid|1171|subtilisin precursor [Bacillus (374) 471 113.7 1.9e-026 0.317 0.669 363
gi|267048|gid|1174|RecName: Full=Subtilisin Savinase (269) 462 111.8 5.2e-026 0.362 0.686 287
gi|636530596|gid|3038|subtilisin-like serine proteas (507) 463 111.8 9.6e-026 0.463 0.706 354
gi|739057410|gid|2857|vacuolar serine protease, part (386) 460 111.2 1.1e-025 0.492 0.700 303
gi|289172|gid|318|serine protease (533) 460 111.2 1.6e-025 0.417 0.669 432
gi|12005497|gid|243|vacuolar serine protease [Penici (503) 459 110.9 1.8e-025 0.412 0.655 447
gi|60116876|gid|1227|vacuolar serine protease [David (518) 459 110.9 1.8e-025 0.394 0.638 447
gi|4588118|gid|243|alkaline serine protease Pen c2 [(457) 457 110.5 2.2e-025 0.413 0.655 443
gi|148361511|gid|1376|vacuolar serine protease [Clad (388) 455 110.1 2.5e-025 0.469 0.688 311
gi|2143220|gid|318|cellular serine proteinase [Asper (495) 454 109.8 3.9e-025 0.420 0.667 448
gi|193507493|gid|2241|subtilisin-like serine proteas (506) 451 109.1 6.4e-025 0.403 0.664 449
gi|1225905|gid|1175|prepro AprM [Bacillus sp.] (361) 412 100.3 2e-022 0.338 0.634 317</td><td>This hypothetical protease >54% identity to 100 taxa and proteins. It is highly unlikely to pose a risk of cross-reactivity.</td></tr>
<tr><td>61</td><td>>EAA32040.2 calmodulin A [Neurospora crassa OR74A]
MADSLTEEQVSEFKEAFSLFDKDGDGQITTKELGTVMRSLGQNPSESELQDMINEVDADNNGTIDFPEFL
TMMARKMKDTDSEEEIREAFKVFDRDNNGFISAAELRHVMTSIGEKLTDDEVDEMIREADQDGDGRIDY
N
EFVQLMMQK</td><td>gi|219815476|gid|1544|troponin C [Tyrophagus putresc (153) 474 85.8 7.6e-019 0.442 0.816 147
gi|82704036|gid|987|allergen Bla g 6.0301 [Blattella (154) 423 77.7 2.1e-016 0.401 0.776 152
gi|60678791|gid|927|Per a 6 allergen [Periplaneta am (151) 420 77.2 2.8e-016 0.388 0.803 147
gi|82704032|gid|987|allergen Bla g 6.0101 [Blattella (151) 411 75.8 7.5e-016 0.381 0.782 147
gi|82704034|gid|987|allergen Bla g 6.0201 [Blattella (151) 402 74.4 2e-015 0.388 0.769 147
gi|55584149|gid|2475|RecName: Full=Myosin light chai (192) 393 73.1 6.5e-015 0.401 0.796 147
gi|5391446|gid|619|pollen allergen Jun o 4 [Juniperu (165) 384 71.6 1.6e-014 0.433 0.773 141
gi|238477333|gid|1743|troponin C [Crangon crangon] (150) 381 71.1 2e-014 0.361 0.776 147
gi|6901654|gid|698|calcium-binding protein [Olea eur (171) 369 69.2 8.3e-014 0.349 0.772 149
gi|62249491|gid|875|calcium-binding protein [Ambrosi (160) 368 69.0 8.8e-014 0.377 0.732 138
gi|6901652|gid|698|calcium-binding protein [Olea eur (171) 367 68.9 1e-013 0.349 0.772 149
gi|261865475|gid|962|putative Cup a 4 allergen [Hesp (165) 359 67.6 2.4e-013 0.404 0.787 141
gi|6065738|gid|91|troponin-like protein [Anisakis si (161) 354 66.8 4.1e-013 0.340 0.745 141
gi|401606251|gid|2845|myosin light chain 1 [Procamba (153) 281 55.3 1.2e-009 0.316 0.691 152
gi|317383196|gid|1792|myosin light chain [Penaeus mo (177) 279 55.0 1.6e-009 0.324 0.697 145
gi|238477331|gid|1742|myosin light chain [Crangon cr (153) 278 54.8 1.6e-009 0.322 0.671 152
gi|184198734|gid|1192|Lit v 3 allergen myosin light (177) 278 54.8 1.8e-009 0.324 0.697 145
gi|1160577980|gid|2669|RecName: Full=Alpha-actinin; (885) 225 47.1 2e-006 0.301 0.644 146
gi|1446210823|gid|2860|Chain A, Parvalbumin SPVI (110) 200 42.3 6.7e-006 0.324 0.696 102
gi|1561006359|gid|2989|allergen Der p 26 [Dermatopha (121) 200 42.4 7.1e-006 0.333 0.633 120
gi|3337403|gid|701|calcium-binding pollen allergen [(84) 194 41.3 1.1e-005 0.366 0.710 93
gi|14423847|gid|168|Polcalcin Syr v 3 (Calcium-bindi (81) 187 40.1 2.2e-005 0.435 0.806 62
gi|3319651|gid|35|pollen allergen Aln g 4 [Alnus glu (85) 184 39.7 3.2e-005 0.344 0.710 93
gi|1503206382|gid|3025|parvalbumin beta [Pangasianod (109) 178 38.8 7.4e-005 0.310 0.680 100
gi|222352960|gid|1197|beta-parvalbumin [Xiphias glad (109) 177 38.7 8.2e-005 0.310 0.670 100
gi|1871507|gid|469|calcium-binding pollen allergen [(82) 175 38.3 8.3e-005 0.423 0.704 71
gi|29465668|gid|428|pollen allergen Che a 3 [Chenopo (86) 175 38.3 8.6e-005 0.323 0.699 93
gi|589912891|gid|2206|Fra e 3.01 allergen [Fraxinus (84) 174 38.1 9.4e-005 0.323 0.720 93
gi|1503286187|gid|3025|parvalbumin-7 [Pangasianodon (109) 175 38.4 0.0001 0.348 0.652 89
gi|327342663|gid|1855|parvalbumin [Evynnis japonica] (109) 174 38.2 0.00011 0.310 0.660 100
gi|62530265|gid|2282|polcalcin [Artemisia vulgaris] (82) 171 37.6 0.00013 0.435 0.739 69</td><td>This calmodulin is nearly 98% ID with 100 taxa and proteins. It is highly unlikely to represent a risk of cross-reactivity.</td></tr>
<tr><td>62</td><td>>EAA28058.1 predicted protein [Neurospora crassa]
MEAVQTGDKLMEAIASADESTLRAVLRGLCARREVEQLIGKHFYELNKFNAAKGRSSDSKRKATSPVHICVE
CGQAFEEDDNKKECRFHSEEMELDENSSIWADYDENCFGVMDSEENRNNPDTLGGFVYPCCNKRADEA
EGCQLGYHRAANSKRGRVDVDDSADQKDEGEDDEEQEKDECHGEQFQGREARRGNQQQQQQQQQ
QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQKTLPLLLKQIKSATFCNLPVTNV</td><td>i|283476402|gid|1617|alpha/beta gliadin precursor [(281) 234 36.6 0.0015 0.791 0.907 43
gi|170710|gid|151|alpha-type gliadin precursor prote (318) 224 35.6 0.0035 0.563 0.766 64
+- 198 33.0 0.022 0.561 0.667 57
gi|1137166044|gid|151|alpha-gliadin, partial [Tritic (293) 216 34.8 0.0057 0.550 0.700 60
gi|170740|gid|151|gliadin (296) 213 34.5 0.007 0.653 0.735 49
gi|258588247|gid|1572|Chain A, Crystal Structure Of (531) 221 35.3 0.0071 0.348 0.728 92
gi|307159112|gid|1572|prunin 1 precursor [Prunus dul (551) 220 35.2 0.0078 0.348 0.728 92
gi|62240392|gid|837|11S globulin precursor [Sinapis (523) 216 34.8 0.0099 0.439 0.671 82
gi|21765|gid|151|Gliadin-like protein product [Triti (313) 207 33.9 0.011 0.738 0.857 42
gi|170718|gid|151|alpha/beta-gliadin precursor (313) 207 33.9 0.011 0.738 0.857 42
gi|21757|gid|151|Gliadin-like protein product [Triti (296) 204 33.6 0.013 0.674 0.739 46</td><td>This hypothetical allergen of N. crassa is over 35% id to 100 taxa and proteins. It is unlikely to pose a risk of cross-reactivity.</td></tr>
</table>

	F	G	H
63	>EAA30385.1 hypothetical protein [Neurospora crassa] MASTDRNAPLRLGTIAPNFQADTTTGPIDFHEFIGDNWVILFSHPEDYTPVCTTELGEMARLEPEFKKRGVK LIGLSANTLGSHEGWINDIKDVTGSQVQFPIIADKERKVAYLYDMLDYQDTTNVDEKGIAFTIRSVFVIDPKKT IRTILAYPASTGRNSAEILRIVDSLQTGDKHKVTTPINWVPGDDVIVHPSIKGEEATRLFPNLKAVKPYLRFTPL PKDA	gi|190684059|gid|1542|peroxiredoxin [Triticum aestiv (218) 623 148.8 1.8e-037 0.438 0.700 217 gi|75324900|gid|1542|RecName: Full=1-Cys peroxiredox (218) 620 148.1 2.8e-037 0.433 0.696 217 gi|5326864|gid|251|peroxisomal membrane protein [Pen (167) 120 34.3 0.004 0.305 0.576 151 gi|2769700|gid|319|peroxisomal-like protein [Aspergi (168) 115 33.1 0.0089 0.278 0.579 133 gi|3445492|gid|646|MF2 [Malassezia furfur] (166) 85 26.3 1.0 0.274 0.607 84	This hypothetical vacuolar protein sorting-associated protein vps17 has high identity of <70 % ID to > 100 proteins and it is highly unlikely present a risk of allergy.
64	>EAA28049.1 hypothetical protein [Neurospora crassa] MQFTTLALSALSAATGVFGAPTSQEAGTASPDQVIFGVMSIRSASPVHLTAWGAEHKGIFTNLSKQDADC YNSPAQNSATFVLNKVDGTLSLYTEGKPWQQLFVDRSGMGQGMMQYTTGAEPAPHNAERGGWAIDE ASQHLTFAGSDAFLACPSGADSSYRILPYVGIENPAGYTGCLSIAARVVVAENPVKCLYSQA	gi|133920236|gid|982|cell wall protein PhiA [Aspergi (185) 517 136.9 5e-034 0.437 0.746 197 gi|3445492|gid|646|MF2 [Malassezia furfur] (166) 76 26.6 0.7 0.283 0.525 99	This hypothetical cell wall protein is relatively unique but it does have >40% ID to 100 proteins and taxa of diverse sources.. It is not likely to pose a common risk of cross-reactivity.
65	>EAA32923.3 vacuolar protein sorting-associated protein vps17 [Neurospora crassa OR74A] MDYSASINDTEHAAGSSPWGNSPSSSPRPTRSTFASTIIPDDYVPPTPNNGLDDEGGFGAGDNGFRRHDS TDAPEAQSGALFSDQLPSGQPQQEGQADDSHGEAHPQSQTESHHEPQNENGQHQQPQEQQHHAQYPP HQQQQQQQQPQQYQQYQQQPPPQQQPYSPHQQVQQQFRRPQPQFKLQAKITGLERTGRKDPILRFDVHP NLPSFRTTQYRDVRRLHSEFIKLAEHLISANPEAIVPAVPPALTSAGAGTDEDEARVKALMQRWFNYVCSNE VLMRDDEMVLFTESDFGYSPMVKKKQPATGVRRKILKQFAPPPDDTPELQEARPIVKLFYLGAMDAGHKV DKLVKTRRGLGLVEADYGIKLSSMHIQEPHPGLSNAYRKLGKVLQTVGDLHAAQATAEATTIGDPFQYHSSD AFIVKETLTNRQILMRELLQAQELTRSKLHAADRLKSSSNVRRERVDEAIAALRDAQEAESTLQHKTTRVTQ NLVHERRKWFARTAGDMRLSIREYVLRQIEAERRTLALLESVRPDIRAIDSSGGLSRLGRESHPTVRRASLAA SQGPKGDAWSGVPRARLGEAGSVSGARSISGSFMAGSVLGVGAGGGVEGEEAGGEDAERPGSGGARG AVGGLVGLPEEDDEDRVDARNAASRLATSTF	gi|1063270|gid|152|gamma-gliadin precursor [Triticum (279) 248 43.5 3.3e-005 0.435 0.600 115 gi|170736|gid|152|gamma-gliadin (251) 244 43.0 4.2e-005 0.396 0.566 106 gi|508732621|gid|152|gamma-gliadin, partial [Triticu (279) 244 43.0 4.7e-005 0.396 0.566 106 gi|170702|gid|152|gamma gliadin precursor (302) 232 41.5 0.00014 0.390 0.492 118 gi|21783|gid|154|LMW glutenin-like protein product [(356) 228 41.0 0.00024 0.351 0.605 114 gi|170708|gid|152|gamma-gliadin B precursor (291) 224 40.5 0.00027 0.398 0.576 118 gi|73912496|gid|150|omega-5 gliadin [Triticum aestiv (439) 226 40.7 0.00036 0.325 0.578 166 +- 232 41.4 0.00022 0.359 0.579 145 +- 205 38.1 0.0022 0.407 0.646 113 gi|170738|gid|152|gamma-gliadin (327) 218 39.8 0.00052 0.426 0.574 108 gi|208605346|gid|150|D-type LMW glutenin subunit [Tr (272) 209 38.7 0.00092 0.429 0.657 105 +- 180 35.1 0.011 0.414 0.595 111 gi|208605348|gid|150|D-type LMW glutenin subunit [Tr (346) 209 38.6 0.0012 0.359 0.572 145 +- 202 37.8 0.0022 0.450 0.650 100 gi|283476402|gid|1617|alpha/beta gliadin precursor [(281) 206 38.3 0.0012 0.474 0.671 76 +- 174 34.3 0.019 0.356 0.567 90	This hypothetical protein has >62% ID to over 100 taxa and proteins. It is unlikely to pose a risk of cross-reactivity.
66	>EAA30438.1 hypothetical protein [Neurospora crassa] MRSSLLTGAIAAALSFSGYAAAADADAWKSRSIYQVMIDRFARDDGGSVDCKLYEFCGGTWKGLTNKLDY IQGMGFDAIQISPVIKNEDKNTAVGEPYHGYWSQDLTQVNPKFGTEEDLKNLIAEIHKRDMFLMVDVVVN HMAQEFDNVVPPKVDYSVFKPFNDKKYFHPYCNVTEWENATNIQDCWLYPYGIALADLKTESPDVVSLFTK WIKNLVSTYSIDGLRIDAAKHVNDEFLPQFVQASGVFALGEVLTGVTEDMCRYQNKSKNLLPGMPNYLDYY PLNAAFNGGSFERLGEIRAQAQDSCNDTLALGTFIENHDMPRFASQNQDMALAKNAMTYVIMNDGIPTV YQGQEQHFTGGATPENREPLWKSNYNTSAPLYVLAQTLNKVRKNAIKQSPTYVKQTSNVLIADTNHFCQQ KGPAENSVVFCVTNKSSKGDSYQMPVGGFRDSDEVVEVLSCATTTADGLGQITAYMGAGEPKVWVKKSA LEGTDICTKTTVDGPKEENGAVSKGAATGVLMAAVLGTASLLL	gi|94706935|gid|333|Alpha-amylase A type-1/2 precurs (499) 1402 325.8 4.9e-090 0.433 0.719 487 gi|166531|gid|333|Taka-amylase A (Taa-G1) precursor (499) 1402 325.8 4.9e-090 0.433 0.719 487 gi|821092692|gid|2473|alpha-amylase [Periplaneta ame (494) 218 55.9 8.5e-009 0.277 0.595 173 gi|85002763|gid|2231|alpha-amylase [Blattella german (515) 202 52.3 1.1e-007 0.249 0.607 201 gi|33667932|gid|964|Blo t 4 allergen [Blomia tropica (506) 136 37.2 0.0037 0.218 0.590 188 gi|118638278|gid|1122|allergen Aca s 4 [Acarus siro] (517) 119 33.4 0.056 0.262 0.605 172	Alpha amylase >41% ID allergenonline, but 100 taxa and proteins over 46% identity in various beetle family proteins
67	>ESA44096.1 dipeptidyl peptidase, variant [Neurospora crassa OR74A] MVGGGCVKTSQIRLLDVESGQSTLLVDDLSASEPTWIGDDEFLYLKSGEKGNTTVLVDKIARPGSQAYEVTT KARISNIKIKELTNGTVAFVCSASATPDGQLSNPATAKKPYSSAKVYTSLFVRHWDEWLGEDKNSLWYTALE KKNGRFTLTGHGLVNALAGSKLESPVPPFGGTGDFDISPTGLVFVAKDPELNPALYTKTDLYYVPLKTFTEEQ PPSPQIVETPGLEGYTNSPVFSHCGRKVAFTRMRSKQYESDKPRLMLLPDIGDLSKTEEFFATDDGEGAWD YRPETILWSADDKSLYVTAEKNARVHLWEVPSNPADARDTPSVIMTADGSVNDIRLLAEADSSSKLLVTSTS LVDNSCYSIVDPSANTTDILSSNSKQGKTFGLSRSSIGDITFKGAGDYDVHALVVRPSNFDEKKKYPLCFLIHG GPQGAWQDGWSNRWNPAVFAEQGYVVVSPNPTGSTGYGMALQNGIKGQWGGRPYEDLVKAFEHIEE NMPYVDTDRAVALGASYGGYMINWIQGHPLGRKFKALVCHDGVFSTLNQWSTEELFFPIHDFEGTIYDNR AGYEKWDPAQHVNEWATPQLIIHSELDYRLPITEGLAPFNVLQSKGIPSKLVMFPDENHWVLKPENSLVWH EQVLAWINKYSGVEKTQSVPEMALVEDKPQKPM	seven proteins hve low identity matches By FASTA to AllergenOnline, < 40% ID	Dipeptidyl peptidase >61% identity over 100 taxa and proteins. Low likelihood of cross-reactivity
68	>EAA32201.1 hypothetical protein [Neurospora crassa] MKTFTTLASLVASATFANAQGLYIDLEGRARCTIPNASYCSGSSIVQCDGTFALNRVDCNAVLVGATPAGN DGQATCWESSAVSGNAACQKNCRVYAVPAPFNLAPDECTPYFPRTTTLAPTIPPTTASTTATGAVSTTGTT TATTTATTTATTTATTTGTTTASNTNTDTNTNSAPTLPPPTTTSQPSTTASASKTWDHYHWTKSHGPWPE WTTTASASASASASASASAAPTRAPHPGPWTKKPWPSHKTKWVETSTDCETDTVTATAAPVTTLPTKVPV PVPVPVPTTLTTQVPAPAPPPNPPVVIVPTPPSPPVVVPTTPPASETSASSPIGVSPPPVVTAGAQKMKKTAT AGLMIVGGVMFWFL		Hypothetical protein only matched 7 proteins over 80 AA and identities were 40% or less. And by BLASTP only 3 proteins that were NOT in the fungal family and all of theose low identities. Highly unlikely to pose as a cross-reactive protein

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69	>EDO65224.2 hypothetical protein NCU11138 [Neurospora crassa OR74A] MSEQAMTSSAPSGAGSAQPQPQPQIDQQQQQQQQQQHQEQKQQQQQPPPPPPPPPASPPPPPPPPPP PPPPPPPPPPPEPEPQPAPPPPETPSQSQPQQSLLQPQPQVLDAPAHKLDSVALENGISYTLNSPPRPAISPLS DPVPDPRTREPSVQPLESELETNHAADQPKTNGIAHSNPTNRPNTDLKGGRDTPQVTSVGATAGATVGG AAATTTVPGNSTNSTSHFSGLAMDGTPIAPFNTQAPPAVDGMANMDFPSSTMDLLQSQSGHILMSFLQS LSVTTQQQQLQQIPPLPPNTVRPSQVSLAQMQLDQANATHLPHLTAQGGIQPPPAAAAATAADASLESFA RLEFADGVFQMTTYALIIGRDQRAWRLAKKEERRAEQYQRLKDEYEAQGLTPPAPPSEDARRFSKSYISEEG GMLGPESDDEEDEEGRPSDNRAPKKRKMNGGVSLPVDSFGEAESSLMSADQTVDDGKGPVSNRQYVSH TPGAAAVNLSALRPSPHHTPFLGIHSPGPNIAAKTKAISREHLKIQFNSQAGVFEAIPLHKNGFFCEDVHYSH DKVVLKSGDRLQVKDVEFVFIINGVAEGKTGAEEYEPEETPARRYSEGGKEMSFDFESIHDVDRRSTSPEDN EVPMSVDPDRDDSQSELSEPPDEDILLPDAPDHVMETVEKEEAEEDDDDEARSQSQSVKPEPRPEFPDMSS VPLMDPPKKRGPGRPPKNGIMSKREERLRKKQAMELAKKNQPPQPPGEPPVKRKVGRPRKHPLPEDAPDR PEKRKYKPRKKNGEEGDASDAEKTIKEKRREKPKTPPLELRREDYTEEQLQKPNKNYGVLIDEVLSAAPDGLT LKQIYKRIQLKYPFYYFNVDTKGGKAVSGTISLGTMRSRRTRRLTFGAASPELILMLERSARHPPLTTPPHCITS ASTTHRNPCLLILACTTESTGSNKAIIQVLWANARAMSLPDSQEPASIRLSIFKLPSPAFRLSSLPGQPTRLLLK QVHQHRPKCMESLELVVLRVFEERIQGTSHKSLDPDLLQTLLTFKATMVSTLEAKLDSQKAECLVLSAIDQVL GLADKTITRGTESEMREFNNAEKVLIPAIRMKVAEWQRKQVAATPAAPVHATATPGALPANHHTMAPAT APSAAQRIATPSATQRANPPGGNPSAVPRTITAAAPAPTPAPLLPRAAPISGHPIAPSTVNNTNAAMGAR PVPAAVPGPQIGVHSGAAIGVTAPVSRSPPVTHGVVTAAPTTTPRSNLAASVPAGSMAQQTHSGAPAGS GNASISRAPPSTAAPTAPTSVPPVSSTVRPMSYVPTGPPGLTAPPTASSGASAGYARPANASTMPAPTSGQ AAMTSAVPQSVPSPRPSSLTTGQMGVPAIAAASTSRPASGVYNPPASSLAPSTHKITGQPSFSAPASVPTPP TSAASQGAQPLSQPVGPAPAISSSIGATPAASIPSSAPAALAPVTYPVPQQASAAAARLPVTPAPAAHTIAQ SVAQPVARPVTQSPVQSVAQHVTSSQASTTAAHPVAQSVPRPVNSNPTSAAPVAAVGTAQVASAPTVTQ PAPHRALSSVSQSLPQSVPHAAQQAAHQTPHSASRPVPQSVPQSVPQATPQAVPRPSTSALTPTAQPGPV PAVSGSGVPAPSAAQSVAPAPVSSTPVPAATVAPASTVAAAPTPTRVTAAPAALSAATNPAPVPSQPQHQ ITGQAPAQQQRPPAQAQAPATPTITSAAPPRPPTLAPPPPPPPPPPTEDPPPPPPPPPAEAPPPPPPTPLMP TSASSAS	gi|170726|gid|151|pre-alpha-/beta-gliadin A-III (282) 279 44.3 5.2e-005 0.429 0.580 119 gi|170710|gid|151|alpha-type gliadin precursor prote (318) 279 44.3 5.8e-005 0.409 0.548 115 gi|283476402|gid|1617|alpha/beta gliadin precursor [(281) 276 44.0 6.5e-005 0.448 0.573 96 gi|170740|gid|151|gliadin (296) 276 44.0 6.8e-005 0.434 0.566 122 gi|508732623|gid|150|omega-gliadin, partial [Triticu (366) 278 44.2 7.1e-005 0.258 0.429 392 gi|21757|gid|151|Gliadin-like protein product [Triti (296) 273 43.7 8.4e-005 0.434 0.557 122 gi|21673|gid|151|Alpha/beta gliadin-like protein pro (307) 257 42.0 0.00028 0.467 0.543 105 gi|1079717864|gid|3017|PREDICTED: collagen alpha-1(I (1449) 274 44.1 0.00032 0.244 0.503 716 gi|170738|gid|152|gamma-gliadin (327) 253 41.6 0.00039 0.363 0.496 135 gi|170724|gid|151|pre-alpha-/beta-gliadin A-IV (297) 251 41.4 0.00042 0.441 0.520 102 gi|1063270|gid|152|gamma-gliadin precursor [Triticum (279) 246 40.8 0.00057 0.432 0.514 111 gi|208605344|gid|150|D-type LMW glutenin subunit [Tr (359) 249 41.2 0.00057 0.254 0.418 347 gi|170708|gid|152|gamma-gliadin B precursor (291) 243 40.5 0.00073 0.423 0.519 104 gi|170736|gid|152|gamma-gliadin (251) 238 40.0 0.00092 0.331 0.515 130 gi|170702|gid|152|gamma gliadin precursor (302) 239 40.1 0.001 0.386 0.485 132 gi|508732621|gid|152|gamma-gliadin, partial [Triticu (279) 238 40.0 0.001 0.331 0.515 130 gi|1304264|gid|151|alpha-gliadin [Triticum aestivum] (259) 231 39.3 0.0016 0.443 0.528 106 gi|170720|gid|151|alpha/beta-gliadin precursor [Trit (286) 231 39.3 0.0017 0.402 0.538 117 gi|21755|gid|151|Alpha/beta gliadin-like protein pro (286) 231 39.3 0.0017 0.402 0.538 117 gi|62484809|gid|152|putative gamma-gliadin [Triticum (285) 228 39.0 0.0021 0.379 0.466 116 gi|1137166044|gid|151|alpha-gliadin, partial [Tritic (293) 223 38.4 0.0031 0.370 0.500 108 gi|170722|gid|151|pre-alpha-/beta-gliadin A-I (262) 221 38.2 0.0033 0.393 0.530 117 gi|21761|gid|151|Gliadin-like protein product [Triti (286) 220 38.1 0.0038 0.393 0.530 117 gi|92924458|gid|3080|PREDICTED: collagen alpha-2(I) (1356) 238 40.3 0.004 0.231 0.480 733 gi|886965|gid|154|low molecular weight glutenin [Tri (261) 217 37.8 0.0044 0.297 0.473 182 gi|208605346|gid|150|D-type LMW glutenin subunit [Tr (272) 211 37.2 0.007 0.331 0.462 169 gi|335331566|gid|154|low molecular weight glutenin [(369) 205 36.6 0.014 0.284 0.492 197 gi|208605348|gid|150|D-type LMW glutenin subunit [Tr (346) 203 36.4 0.015 0.286 0.481 189 gi|508732627|gid|154|low molecular weight glutenin s (283) 199 35.9 0.017 0.360 0.500 114 gi|666431137|gid|321|allergen Asp F7 [Aspergillus fu (270) 198 35.8 0.018 0.304 0.601 148 gi|886967|gid|154|low molecular weight glutenin [Tri (276) 198 35.8 0.018 0.292 0.484 192	Allergen pre_alpha gliadin >50% ID but with major gaps and not high identity. So unlikely to pose as a cross-reactive risk.
70	>EAA35101.1 hypothetical protein [Neurospora crassa] MDGQGPRRRAVDLLIHDLGGIGHDLRRYLDEGETLIRKVKPPDVKAARDLFEQIIARIGNVSAKLADEHFLSS DIPPAPLANGPITPNSQVDVSKIVHHQQQFVLAEIVEASQAPQQVQRAQEPVQRDQLQSQQQQNHSQGQ HEVQLQPKLQPLPLPQHHDQQPVQQNQLQGQQKIQLQPQQAVEQQVQLQHQRRDQLHGQQEVQLHPQ QPLQQHYQLPEQLHNQQGIQLQSQQQNQHNGQQQVQQEQKTQSRYQQQEYRPTETVPEAVPEAVPNT GVGAVNREESPQPGPPTQDEIHAALSAPRRILPAPFPTTNSIPTNSSISCVTGPDVGDRSGEPTRLRSPKLLLL HKDSAPLFDCTYQDIHVLNEELFEQCSLHPDVHARGYFKLQVRDLPSLQVGKMGRLDQNHATSFVYRKDNL GLIKVDTGKKPRIRWPKFPLPTTEKQNWSFKEQKHLWNSTAAHPPNGARPYIIGNPLFDDVELSPGDKLRRR GPTVLEGINTQYIYFNLTGKTITVMHREDAHVRSENLLRAGENKFWCFIKPSSTAKLEERMRQDFPEMRGC SQALRHLSRHIPPAKLDEWGVEYTLDYCVPGQAVVTEPGTYHQVLNLGPNYAIAINVEYNSSPDDPPNYTF CDEACPDQFAISAQDFRINSNATAMDKMAVPAKTKPMTMMAQPKQPGAVSPRRRLSNDYVPSDSAPAT GQHREQQHPVSGPPPQKFQDAKSYYSRQLESAVLPSMPSTVSSPVHERPQPDISEASASVFSPGRVDRGPL QVAFEQQQVITEPEALPEVQQAATGVQQIISEPEAPQDIRQTASEQLSIQPRSQTAVFHQHQEQADMAQS QPVILNPSQARALGHSADHYQEHSRVQATFPLVQQSTAPPRGVIGPKPLFNVPDLRFVGPPVLQPFDGAIRA FDRDLQTQTFSVQQASYGTLQPPPAIKPSSFPAQIIQSYVHQTSESPPILNNVAASGVGLKRPAETPIQSSVKP TKPNNEATSFGHLADLLRTAKSPPVEQVWSKAAFLRLAGLVRDWREYSRSVPISGGGFDLLDHVDDAEQIS QELQVFLRRFLKMKLSEYIESTAQVNGLKDVFDCPVSSHIDWGEIFRKLNWDVTGRNQLNDYVREGKCWR TICGEYNGLLCLLPSDDRFLELAMFKDQLAHFHAQLSTKAVRRMCTMGQTLEKSIWEYLELPEFSWESVDTS ELSLDEIWPLLSQFKLIKTNHYDRLKYNWEIQPPPLGWTDPWPSDPMSVAKSDKKACSLCNNSKRMTTEKS SCKCLVKRLPQIPRITQDGSRGEGVRAIGSFKADECLGELVGELRPPRTAGTSCSSDHNHPNISSGQAQLNN HNSNRHNHEWAMEVRRPDLHDQLVADIYPQQMGNWVRKVRHDGVSPSAVFKVMKITGKWRVMLVA	gi|73912496|gid|150|omega-5 gliadin [Triticum aestiv (439) 385 64.4 6e-011 0.268 0.529 384 gi|208605346|gid|150|D-type LMW glutenin subunit [Tr (272) 370 62.4 1.4e-010 0.335 0.565 230 gi|208605348|gid|150|D-type LMW glutenin subunit [Tr (346) 361 61.2 4.1e-010 0.335 0.574 242 gi|208605344|gid|150|D-type LMW glutenin subunit [Tr (359) 267 48.9 2.2e-006 0.294 0.502 279 gi|170710|gid|151|alpha-type gliadin precursor prote (318) 255 47.3 5.8e-006 0.323 0.498 251 gi|21765|gid|151|Gliadin-like protein product [Triti (313) 252 46.9 7.5e-006 0.289 0.495 277 gi|170718|gid|151|alpha/beta-gliadin precursor (313) 248 46.4 1.1e-005 0.279 0.482 280 gi|21761|gid|151|Gliadin-like protein product [Triti (286) 243 45.8 1.5e-005 0.328 0.541 229 gi|170736|gid|152|gamma-gliadin (251) 236 44.9 2.5e-005 0.429 0.588 119 gi|170738|gid|152|gamma-gliadin (327) 238 45.1 2.8e-005 0.373 0.525 177 gi|508732621|gid|152|gamma-gliadin, partial [Triticu (279) 236 44.9 2.8e-005 0.429 0.588 119 gi|508732623|gid|150|omega-gliadin, partial [Triticu (366) 238 45.1 3.1e-005 0.321 0.492 262 +- 217 42.3 0.00021 0.357 0.516 126 gi|170720|gid|151|alpha/beta-gliadin precursor [Trit (286) 235 44.7 3.2e-005 0.326 0.533 227 gi|170740|gid|151|gliadin (296) 234 44.6 3.6e-005 0.300 0.478 270 gi|283476402|gid|1617|alpha/beta gliadin precursor [(281) 229 43.9 5.4e-005 0.293 0.507 280 gi|75317968|gid|154|LMM glutenin 3 (373) 231 44.2 6e-005 0.282 0.550 202 gi|21755|gid|151|Alpha/beta gliadin-like protein pro (286) 227 43.7 6.6e-005 0.322 0.529 227	Only a few with long alignments, but many with short identity seqments 20% ID to 40% or more for segments with 100 taxa and proteins. Unlikely to pose a risk of cross-reactivity.

	F	G	H
71	>ESA44230.1 hypothetical protein NCU00917 [Neurospora crassa OR74A] MTYDWDPYKDICHRLYVDERRSFAQVARYMAENHGFTPSRRTYWYKFREWGWPIRVNKAYSNTELIARI KELWEQNLKATEMVRVLNEEGYDINDRTLNRIRQKYNWKLRLKTIQDLRKGIIRPPGQPANGTDDDDNNN GSDGDSDSADDSDNDSEEVSSEEDEEDNNDDEEIAAEDNGQGSSNTHGQRQHQQQQHQKSASASLPLG PDDELTPEQRARREERRRVLEQESAERWALKKRRRRTKGWAGLPPDPSGLPPRFPSETTLDEAKVILQLDA AAYKTLRENFEKICRENNVIKKTIAGPEKWEAMKEQMIRDSMHLRAIMWDQANMEQKKIAIDVICCDVTK RIRTMQSHMTLAQARNLLGLNPEQGRYIRGTLYLLLGQEKFGFKHVEGIDKWNEMVQKWFDTTELLQELF PPGCEHWPNAKERKRAIELLARDGMRRYRGDQAKLEKDALNPPPPKVPRKRAPPKPKPVPTPAQLEAAAK RAEKAAEKAAKAAQPKRGRGRPPKNNTVGPSPATATATATATVPHTAVRLAPLESSSSEESEADQDAQDA DNGNLDPDYLLQQSIEADTSFGSYSANTHVASGRGSAGANVGANTITAQASSHTPNLAQTQSRPQTHSRA TQNYTTNRNHMQQSYATSNNHGLTQSHTQPPPLTKYTQQQQQQQQQQRQQQQQQQRIQQEAIQRQARA RQQHFQQTASVPVQVSQPVATTSSASTSSSMAIYFRLHASSPLQGVVSRMWIATLSGRSVQELRSTAVANY PGVVCLAIEGIVKDGKGGELPLPVSDDMEMEAYLQHIQGMGSGAPTFSVMLVPAATAATAAGGVGGSW	gi|21673|gid|151|Alpha/beta gliadin-like protein pro (307) 173 35.0 0.016 0.425 0.630 73 gi|1137166044|gid|151|alpha-gliadin, partial [Tritic (293) 172 34.9 0.017 0.427 0.573 82 gi|283476402|gid|1617|alpha/beta gliadin precursor [(281) 168 34.4 0.023 0.367 0.611 90 gi|170718|gid|151|alpha/beta-gliadin precursor (313) 160 33.4 0.051 0.400 0.576 85 gi|21757|gid|151|Gliadin-like protein product [Triti (296) 159 33.3 0.053 0.374 0.513 115 gi|21765|gid|151|Gliadin-like protein product [Triti (313) 158 33.1 0.061 0.381 0.595 84 gi|21783|gid|154|LMW glutenin-like protein product [(356) 158 33.1 0.07 0.313 0.548 115 gi|170710|gid|151|alpha-type gliadin precursor prote (318) 156 32.9 0.074 0.223 0.468 301 gi|170724|gid|151|pre-alpha-/beta-gliadin A-IV (297) 154 32.6 0.082 0.571 0.762 42 gi|21761|gid|151|Gliadin-like protein product [Triti (286) 153 32.5 0.087 0.415 0.598 82 gi|170720|gid|151|alpha/beta-gliadin precursor [Trit (286) 153 32.5 0.087 0.415 0.573 82 gi|21755|gid|151|Alpha/beta gliadin-like protein pro (286) 153 32.5 0.087 0.415 0.573 82 gi|73912496|gid|150|omega-5 gliadin [Triticum aestiv (439) 158 33.1 0.087 0.318 0.542 107 gi|170722|gid|151|pre-alpha-/beta-gliadin A-I (262) 151 32.3 0.094 0.316 0.561 114 gi|208605348|gid|150|D-type LMW glutenin subunit [Tr (346) 153 32.5 0.11 0.340 0.557 97 gi|170740|gid|151|gliadin (296) 151 32.3 0.11 0.365 0.504 115 gi|170728|gid|151|alpha-type gliadin (186) 144 31.4 0.12 0.606 0.818 33 gi|75317968|gid|154|LMM glutenin 3 (373) 151 32.3 0.14 0.268 0.529 138 gi|170712|gid|151|pre-alpha-/beta-gliadin A-II (291) 148 31.9 0.14 0.548 0.738 42 gi|21743|gid|160|high molecular weight glutenin subu (830) 154 32.6 0.24 0.228 0.477 373 gi|335331566|gid|154|low molecular weight glutenin [(369) 144 31.4 0.25 0.274 0.590 117 gi|208605346|gid|150|D-type LMW glutenin subunit [Tr (272) 138 30.6 0.31 0.340 0.557 97 gi|1304264|gid|151|alpha-gliadin [Triticum aestivum] (259) 135 30.2 0.38 0.318 0.565 85 gi|21779|gid|160|HMW glutenin-like protein product [(660) 145 31.5 0.41 0.200 0.486 461 gi|886965|gid|154|low molecular weight glutenin [Tri (261) 134 30.1 0.42 0.298 0.519 104 gi|508732625|gid|160|high molecular weight glutenin (794) 146 31.6 0.46 0.226 0.497 394 gi|170743|gid|160|HMW glutenin subunit Ax2* [Triticu (815) 146 31.6 0.47 0.226 0.497 394 gi|886967|gid|154|low molecular weight glutenin [Tri (276) 133 30.0 0.48 0.295 0.524 105 gi|1063270|gid|152|gamma-gliadin precursor [Triticum (279) 133 30.0 0.49 0.270 0.470 215 gi|170726|gid|151|pre-alpha-/beta-gliadin A-III (282) 133 30.0 0.49 0.313 0.496 115 gi|170738|gid|152|gamma-gliadin (327) 134 30.1 0.53 0.259 0.469 243	Hypothetical protein with low identites for 700 AA and sporadic gaps. By BLASTP similar alignments. Highly unlikely to pose a risk of cross-reactivity.
72	>EAA28084.1 hypothetical protein [Neurospora crassa] MEMLGVEIGEPGPSVQSGQPAAALPDPATAPARAAAQSPTQSTNSTTSTRSGPASLARSRSSTAGASTTC SSRSWGETHSGGPAQVEKFPDLPTHTTSPEHQQQPLHHHPHPHHHRHHHHHQPASEAVRRDGTCAHTAE GTPTPPAAPAAPATPTPVPRLNTDHTELASPGPPPAASCPAIGRPPSLSIHSTASSSDHSSSLSDGDLVFDSRR SSVVTSASTASAYNYPLSPSCHQPDSSPEHPLTRTRRDAKQLHAARLERSGSISLALASTKREAPSPALRNPTR FQRASSEPTRAPKLVTEQPAGFTKMAFAEQQQWITVQQKTFTKWLNTKIEVRGLEVKDLVKDLSDAVMLH LLECLSGDSLGRYAAKPKLRVQRFENANLALNFIKSRGIQMTNIGAEDIVDGNRKIILGLIWTLILRFTINDINE EGMTAKEGLLLWCQRKTACYDEVDVRDFSGSWNDGLAFCALLDIHRPDLIDYDALDKSDHRGNMQLAFDI AHAEIGIPKLLDVEDVCDVAKPDERSLMTYIAYWFHAFSQMEKVENAGRRVEKFFNNMQGAWEMQSAY ERRMAALLKAIREQVVSWKGSTFDGTYADAKAQAFQFASYKKGKKREWVAEKSDLATLLGNIKTKLATYRL RPYDPPAHLRMEVLDDEWGNLSKAEMSRGQLINETIRDIKDALRKSFADKANDFALALNTMQLAISGLEGD VEDQLHHVRKLSENLPPLDAYLKTIEAVDLKCQEANIEENDFTTYSYDELCYELSLVKSSVSKKLAFLENQMVA RNMTNLTPIQLEEFESVFRHFDRDDTNSLSELEFSAALASLGLVFSEDEMHEYFLSTSNGRDRVTFEQFIRFM VDVTEDQNTAEQVFQSFREVADGKPYVTEMDLRHSLVPDEVIEKLIEIIPKHTGPDMQSDRGMEQYDYIAF MEKLISEQEGRAASASSRRSSRASGVAGGGGAAAPGQMPNHSHSASVGGSISHSRHNSHASIGGKSVLG	gi|1160577980|gid|2669|RecName: Full=Alpha-actinin; (885) 982 157.3 8.8e-039 0.426 0.726 380 +- 425 74.9 5.6e-014 0.305 0.620 279 gi|82704032|gid|987|allergen Bla g 6.0101 [Blattella (151) 154 35.3 0.0081 0.259 0.589 158 gi|219815476|gid|1544|troponin C [Tyrophagus putresc (153) 144 33.8 0.023 0.239 0.579 159 gi|60678791|gid|927|Per a 6 allergen [Periplaneta am (151) 134 32.4 0.063 0.263 0.571 156 gi|62249491|gid|875|calcium-binding protein [Ambrosi (160) 133 32.2 0.075 0.220 0.541 159 gi|82704034|gid|987|allergen Bla g 6.0201 [Blattella (151) 124 30.9 0.18 0.241 0.563 158 gi|1026259961|gid|2658|Art gm 1.0102 allergen precur (132) 122 30.6 0.18 0.254 0.508 118 gi|27818335|gid|312|major pollen allergen Art v 1 pr (132) 121 30.5 0.2 0.258 0.525 120 gi|78128018|gid|509|group 15 allergen protein [Derma (558) 137 32.4 0.22 0.269 0.555 119 gi|1026259951|gid|2715|Art an 1.0102 allergen precur (132) 120 30.3 0.23 0.289 0.537 121 gi|573005956|gid|2715|major pollen allergen Art v 1- (108) 116 29.8 0.27 0.369 0.571 84 gi|573005954|gid|2715|major pollen allergen Art v 1- (108) 116 29.8 0.27 0.369 0.571 84	Hypothetical protein with high identity down to 65% ID over major segments.
73	>EAA28841.1 hypothetical protein [Neurospora crassa] MADYTMYHALGQGETLDPNDPNRTTQPAPPQFQPPVAPNPYHPGAEYNAPGQQQQQQQQYGQQYG QQYGQQYGQQQYGQEYGHQQQQQQQQQQYGAPSPYGAPPAHSPVSPMDDVGLAAQMGGMSLGAGA GAADHHGRKKKKDRHAFHTVEAPAGSSQPFNGMPPAGIPATQFLNADPSLAGRIPGPGHGQFPMPASP AFGPVPTSAADFAARDATQGVGSGVFAAGGPQGGKPSPDDTPSVPLSRDAVQPYFHTNVYPTFERLVPPP AVTSFVALDQGNSSPKFARLTMTNLPASAEGLKSTGLPLGLLLQPLAETQPGELPIPVLDFGEQGPPRCHRC RAYMNPFMMFKAGGNKFVCNLCTYANDTPPEYFCALSPQGVRVDRDQRPELTRGTVEFVVPKEYWTKEP VGMRYLFVIDVTQESYNKGFLESFCEGILSALYGGSEEGEDQDETGEPKRKIPAGAKVGFVTFDQEIHFYNVS PALEQAQMIVMPDIEDPFLPLSDGLFVDPYESKAVISSLLTRLPQMFSNIKNPEPALLSALNSAVAALEKTGGK VFCSLAALPTWGPGRLFMRDDGKHPGGEPDKKLFTTEHPGWRKLAEKMVSLGVGADFFMASPSGGYLDI ATIGHVSSTTGGETFYPNFVVQRDSTKLSLEIHHAVRRETGYAALMKVRCSNGLQVNAYHGNFIQHTFGA DLEIGVIDADKALAVTFGYDGKLDSKLDAHFQAALLYTTASGQRRVRCINVIAGVSDLARDCMKYIDQDAIV SILAKEASTKLSTTSANLKEVRSSLTEKTIDILALYRKNHLAVPHPPQQLVMPERLKEFTMYVLGMLKCRAFKG GNETTDRRVHDMRLIRSMGARELSLYLYPRIIPLHSLQPEDGYPDATTGHLRMPSTMRASFARVEPPGGVYL VDNGQVCLLWMHAQTAPALIQDLFGEDKTTLQSLDPYTSTIPVLETHLNAQTRNIIEYMRTVRGSKGLTIQL ARQGIDGAEFEFARMLVEDRNNEAQSYVDWLVHVHKGVQLELAGQRKREDGESHSALGSFTGLRPAYW	gi|288860106|gid|160|high molecular weight glutenin (848) 210 39.0 0.0036 0.274 0.479 361 gi|21779|gid|160|HMW glutenin-like protein product [(660) 205 38.4 0.0044 0.270 0.502 241 gi|71084277|gid|160|HMW glutenin x-type subunit Bx7 (795) 199 37.7 0.0086 0.263 0.525 335 gi|170722|gid|151|pre-alpha-/beta-gliadin A-I (262) 187 36.0 0.0089 0.425 0.586 87 gi|170740|gid|151|gliadin (296) 188 36.2 0.0091 0.413 0.543 92 gi|21761|gid|151|Gliadin-like protein product [Triti (286) 183 35.5 0.014 0.425 0.598 87 gi|736319|gid|160|glutenin [Triticum aestivum] (838) 194 37.0 0.014 0.274 0.480 350 +- 230 41.5 0.00065 0.300 0.494 267 gi|508732625|gid|160|high molecular weight glutenin (794) 188 36.3 0.022 0.248 0.490 347 gi|170743|gid|160|HMW glutenin subunit Ax2* [Triticu (815) 188 36.3 0.022 0.248 0.490 347 gi|21743|gid|160|high molecular weight glutenin subu (830) 188 36.3 0.023 0.276 0.493 337 +- 194 37.0 0.014 0.326 0.558 129 gi|1137166044|gid|151|alpha-gliadin, partial [Tritic (293) 177 34.8 0.023 0.364 0.485 99 gi|22090|gid|160|HMW glutenin subunit 1By9 [Triticum (705) 186 36.0 0.023 0.290 0.500 252	Hypothetical protein with matches up to 65% identity over hundreds fungal proteins
74	>XP_959923.2 mmf1 [Neurospora crassa OR74A] MAPAKAVLTSKAPKPIPQLSQAVVYNGMVYCSGSLGIDPATGNMVEGTVKDRTRQVFKNLSAVLEAAGSS LKNVVKVNVFLTTMDNFAAMNEAYDEFITAEPKPCRTCVAVAQLPFGSDVEIECTAYLNAPSAKL	gi|1098871171|gid|2576|enamine/imine deaminase [Derm (128) 340 103.4 2.8e-024 0.423 0.780 123 gi|345108717|gid|230|pollen allergen Phl p 5 [Phleum (309) 81 29.4 0.13 0.230 0.541 122 gi|29500897|gid|230|phl p5a allergen precursor [Phle (284) 80 29.2 0.14 0.257 0.564 101 gi|3309039|gid|230|group V allergen Phl p 5.0103 pre (312) 79 28.8 0.2 0.260 0.548 104 gi|21725624|gid|230|Group V allergen-like protein pr (287) 78 28.6 0.21 0.260 0.548 104 gi|21725608|gid|230|Group V allergen-like protein pr (287) 78 28.6 0.21 0.260 0.548 104 gi|21725622|gid|230|Group V allergen-like protein pr (287) 78 28.6 0.21 0.260 0.548 104	By FASTA, poor matches, one to 42% partial to HDM. By BLASTPk many partial matches >65% over 100 taxa and proteins and within the fungal group. Low probability of cross-reactivity.

	F	G	H
75	>EAA33291.2 hypothetical protein NCU08314 [Neurospora crassa OR74A] MSGKQDPPPYNQPQPPQAAYTGYGTPPPGQEGAYPYGQPPPQQGGYYPPQAQGYPPQGPGYPPQGPY PPQGQYGQQPGPYQQGPQMGYYPQQQPPPGAYYQQGPPPQGYYQQPVEQKSGSDGVCMAILGTCAL CCCLDAI	gi|288860106|gid|160|high molecular weight glutenin (848) 256 43.3 2.4e-005 0.423 0.504 123 +- 235 40.8 0.00014 0.403 0.506 154 +- 235 40.8 0.00014 0.398 0.526 133 +- 181 34.3 0.013 0.394 0.506 160 gi|21751|gid|160|high molecular weight glutenin subu (648) 246 42.0 4.6e-005 0.400 0.484 155 +- 228 39.8 0.00021 0.405 0.504 121 +- 216 38.4 0.00056 0.363 0.484 124 gi|21743|gid|160|high molecular weight glutenin subu (830) 248 42.4 4.6e-005 0.412 0.485 136 +- 227 39.8 0.00027 0.387 0.451 142 +- 215 38.4 0.00073 0.375 0.478 136 gi|21779|gid|160|HMW glutenin-like protein product [(660) 239 41.2 8.3e-005 0.410 0.522 134 +- 220 38.9 0.00041 0.385 0.500 130 +- 196 36.0 0.003 0.360 0.478 136 gi|170702|gid|152|gamma gliadin precursor (302) 227 39.4 0.00013 0.371 0.460 124 gi|21783|gid|154|LMW glutenin-like protein product [(356) 227 39.5 0.00015 0.364 0.504 121 gi|21757|gid|151|Gliadin-like protein product [Triti (296) 223 38.9 0.00018 0.400 0.478 115 gi|170740|gid|151|gliadin (296) 223 38.9 0.00018 0.391 0.470 115	Relatively few (12) modest identity matches to hypothetical protein OR74A, and most under 60 AA length. Highly unlikely to pose a risk of cross-reactivity.
76	>EAA28973.2 beta-xylosidase [Neurospora crassa OR74A] MKSSWASYCLLSCTSALVSAIDLPFQTYPDCVNGPLASLKVCDATLSPPQRAAALVAAMTTEEKLQNLVSKS KGAPRIGLPAYNWWSEALHGVAYAPGTQFRSGDGPFNSSTSFPMPLLMAATFDDELIEKVGEVIGTEGRA FGNAGFSGFDYWTPNVNPFKDPRWGRGSETPGEDILRIKRYAASMIRGLQGPLPERRVVATCKHYAAND FEDWNGSTRHDFDAKVTLQDLAEYYLSPFQQCARDSKVGSIMCSYNAVNGVPACANTYLMQTILREHWN WTAPGNYITSDCEAVLDIFANHHYAKTNAEGTALAFEAGTDSSCEYESSSDIPGAWTQGLLEQSTVDRALT RLYEGLVRVGYFDGNHSEYASLGWKDVNSPKSQEVALQTAVEGIVLLKNDQTLPLGLKTDPKSKLAMIGFW ANDPKTLSGGYSGKPAFEHSPVYAAEAMGFNVTTAGGPVLQNSTSNDTWTQAALEAAQDANYILYFGGL DTSAAGETKDRTTINWPEAQLQLIKTLKLGKPLVVVQMGDQLDNTPLLATKTVNSILWANWPGQDGGT AVMQILTGLKSPAGRLPVTQYPANYTAAVPMTDMNLRPSDRLPGRTYRWYPTAVQPFGFGLHYTTFQAKI AAPLPRLAIQDLLSRCGGDNANAYPDTCALPPLKVEVTNSGNRSSDYVVLAFLAGDAGPRPYPIKTLVSYTRL RDVSPGHKTTAHLEWTLGDIARYDEQGNTVLYPGTYTVTVDEPAQASASFVVEGEAVVLDRWPAPSGQV	No significan FASTA matches, but many high identity matches above 48% ID o fungal proteins by BLASTP. Unlikely to pose a risk of food allergy
77	>EAA36355.3 chitosanase [Neurospora crassa OR74A] MLLSLRFLILTISLLACMAASARDVPSNLQNLYTKLLKQKKCKHPLVSGFYSTADGPNTYSYCGDHLSDFQILY RGRGRGRLANMDVDCDGVQGGASDDGRCSVGVSADYQSTTAFQDMVAAYNVSGVRDLNTYVHPYVV FGNEVEKNDNDNDNKDLRWNVFDPRAYLVEPLSVMAVVCDGGSKLVYGVWGDTNGDDGDKSMVGEA SLALATACGGRAMSGSNGIDEEDVLYLAFVGSEAVPGKMGAKWDAASFEEFERSIEGLGDQLVQRIPADG KASGMVRVSWGLMIWMYVALVGGHLGFY	gi|74666748|gid|2330|RecName: Full=Endo-chitosanase; (242) 355 105.6 2.7e-024 0.423 0.665 272 gi|74629604|gid|2330|RecName: Full=Endo-chitosanase; (238) 320 95.9 2.2e-021 0.401 0.691 269 gi|3021324|gid|316|Aspf1 allergen [Aspergillus fumig (125) 88 31.5 0.029 0.281 0.494 89	Five modest identity identity matches to this glycoside hydrolase by FASTA with up to 42% ID. By BLASTP, many with >48% identity matchesto 100 fungal proteins. Highly unlikely to represent a risk of cross-reactivity
78	>EAA26677.1 hypothetical protein [Neurospora crassa] MSEHPFQIPGLGQARPNEQLPADNFAPDLLVAAASIVGQDVLAVNSADPAQLLGLPKPKTEEKKDENAMD VDSKQSDSTPAKAQEDVSMTNHGDNKQQTASENPAASNLDSPPSPDVTSTLEAALNGMLDAPASSANM TNGDQDGVQEEEHPEWEEDSSPYESSSESSSDSSSDDDSDDEDAHPVLGVEETVRMLMAGLDEEDEDGP NKGKGAGAPLRTKNEIVEEIIPKPEVVITPEMKIEPLAHVEFIVENTVVMKSRVPGEVKVLDLGSVLCKEDRTV IGALAEIIGNVKSPLYTCAFANQDEIKELGLEVGTQIFYSVEHANYVFTQELKKQKGTDASNLHDEEVGADE MEFSDDEKEAEYKKQLKMKKRGGKAGRGGLREQVLRDQSYAPSTAYAPSASSATLDHSPTVSSATLNYDE DDDGPYRPLARPVGFGQGGGPPSLPPKPEVGFNAAHGVQGQRGGFSRGNRGEFRGRGQRGGYRGADRK PGGHRAGRGGAAAPSYGGYESTSAPPPFPNTQLPPPIPPNAQIPPPPFGATPGAAPPMPGGHWPHIPIPF PPPPISFPRPSTQSPVPPPQLAGAFNFNFQAWNQAQGQPYQYPPQSSSSSASAPQQQSSTPSYPHQAPTV PVWSGVPPPPPISGAYVNPNFFQQLQAQHAQQPQQPQQSQQPQQQQQQQQQQQQQQQQYWGQHN	gi|208605344|gid|150|D-type LMW glutenin subunit [Tr (359) 296 35.8 0.0091 0.335 0.467 182 gi|21757|gid|151|Gliadin-like protein product [Triti (296) 281 34.9 0.015 0.421 0.526 133 gi|170740|gid|151|gliadin (296) 276 34.5 0.019 0.401 0.493 142 gi|283476402|gid|1617|alpha/beta gliadin precursor [(281) 274 34.4 0.019 0.345 0.491 171 gi|21673|gid|151|Alpha/beta gliadin-like protein pro (307) 261 33.4 0.043 0.367 0.496 139 gi|508732623|gid|150|omega-gliadin, partial [Triticu (366) 266 33.6 0.044 0.360 0.492 189 gi|208605348|gid|150|D-type LMW glutenin subunit [Tr (346) 258 33.1 0.061 0.333 0.497 189 gi|170710|gid|151|alpha-type gliadin precursor prote (318) 255 32.9 0.062 0.392 0.515 130 gi|508732625|gid|160|high molecular weight glutenin (794) 278 33.9 0.078 0.263 0.481 376 gi|170743|gid|160|HMW glutenin subunit Ax2* [Triticu (815) 278 33.9 0.082 0.263 0.481 376 gi|288860106|gid|160|high molecular weight glutenin (848) 275 33.6 0.1 0.273 0.503 362	Many low ID matches by FASTA. Many matches of >60% ID over partial alignments. But little risk of food allergy.
79	>EAA34439.2 ADAM protease ADM-B [Neurospora crassa OR74A] MFVSTAFAAVFAAVGLLVQSATAHSTERNPLSYISHVDDAVIHTPSHRVHSQSTFDLSFYLHDRQQKIRFVLE PNHDILSDDATIHILGPDGKVKRIEPIAREEHKVFRGTTFVQREGTTDADWKQAGWARVYVLRDGERPIFQ GSFRVNGVDHHIQTNTNYRQTMIPGDPEIEEADEEYMVVWRDSDIKKPAHNDLKKRDPASTGSCASNDLL WNRDENNGVLRWTEEVFEHQSRWAISPRALFGRQMDGTQGGNGAGVNLLNSIGSTAGCPTSKKVALIG IATDCTYTEKFNSTESLRQNVIDMVNKASQLFESSFSISLGIRNLTISDKECPATPPDSAPFNMPCSSGATITD RLVKFSEWRGKSNDNNAYWTLLSTCNTGPAVGLAWLGQVCQPGATQSQGNETVAGANVVVKTSTEWQ VFAHESGHTFGAVHDCLPDTCADGSAGENKCCPLSTTTCDANAQFIMNPSTDDRITSFSACSIGNICSFLGR NPGRLSCLSNNKDVVTITGQQCGNGIVEAGEECDCGGAEGCGNNPCCDPKTCKFTTNSICDPANEECCTD KCQFSGTETVCRASTGPCDPEEKCSGTSGSCPADKTADDGTSCGDSLTCASGQCTSRDQQCKTFMATEDT HNQTTSCSNEGCTLACEGPMFGNAQCYSLPQYFLDGTPCEGGGKCHNGICEGAKLSNQILDWFKDNKNI AIPVGCVIAGLLLISLSCCCSCCRRARYRSRRAPPRMMAPSPVMGQHPVGWNWGGGRNGGHVPLP	No sequence matches to allergen in full fastA but 16 using slidting 80mer to wheat and Salmon	Many over 51% identity to fungi by BLASTP with >50% identity over diverse fungi. Little risk of cross-reactivity

	F	G	H
80	>ESA42540.1 hypothetical protein NCU01283 [Neurospora crassa OR74A] MADSKSTPQALSVVTSSDKAQSEVTQNGVNYHDDDDLSSPRSPTSPGSPGASPASKNAKKNAKKREKEKA KKAAARALALAEAESQPVTESEAAHDEHEDSGAPNDAEKKKKKKKKSKSKTSKDLSTSIASILGEQPAQTET AEQTSEIKPAVEEQPEQQLEEVSQPSEPAPEPETVEVKEAEQPVADAQVEESKPEEAPAPGSTEQTPAMTT EEAPTAVTEPVSTEEQVPAQPEEETATATTTSSQDESAPTYAEVAELKEGDSPASEVVVPEATEVTPEPASG VVLETDEVRESAEPVDTEVQIVEETKASEVDNTPVESVAAPEVKAEVEDDVKVPEVPAQGKGGLSHIFFHLP ETTEEVKDTAILVSGETQASVEETDIEEEKTETRVVEEAETPAHEEKAEAPVAEAIEAPASEETVETSAPETKT ESQEEKPETTAKEEEPVASVTETPVEQGTEVQEKVEAPAAEEKIEVSEEKPETPVAQEEIKAKIEEFVESEKPV EAEEENKQEDVEKSPEPAAAEKPVSEDVTLPEGVSEVSAVEESKTAEAEQTPIVEAVEAAEEPKTVEEAQTV ETSAAEETFAVEETSAAEEVKVSEQAPAVEESKPVEETPIVEEVKTVEEPQALEETPAAEEVEVSEQAPAVEE SKPVEEVKTVEEPQALEETAAVETSDVEEAPVVEKTPATEAPKAVEESEPVEQTPIVEEVKPEQQEVATEAA KGEPVQETAAEPSIESATETATAAVPETAPEPAVEDIELAITESATKSVADAAEAVETVAEPDSQVVESTPEL KATDIAQVEASEPVTAKAEDHDEKPISVEETVGESKAVLPVDESIEDKIQDTVAAPVHDDVKEVVVEEQTTG EDKTAIKGESTNDSVQVPTDAISHEKPASVQQAVEEAPVAETEEEATDKPGSSLSETSVTKDVEEPEKKDTDE SKSNATEMAVGAGIAVAGALGAAAAAVADKVTEVSKPVTEKVVEVTKPIISDSAPKIATLERSVAHSQTEA GSLIAERPRPESNPQAVTEDVKSTSSVDAEAPEIVDETVPLSESFHIVEKEAPAEEEAAKIDGKKGASSEDGEE KTIQSVDQKGTQTDNALNPQRLPTEDRTTNQVSVDQRVPTSAVVLPDLDHPVAQEVSRARNEPGPDRNTI KQAEEMVAAAVVIYATADSSSPAATATADKSEINLGLSGVPSEADVKGKGKDVEPPSPTASKKDAHIKNVE TASDPTIVQQGSSSPELGRSSTTRLRRSLKSRESQEASNKEIKGTERGHGKKSSISSVFKSKKQSSTASDESVEA	gi|1480457|gid|594|latex allergen (151) 202 187.9 2.6e-005 0.416 0.591 149 gi|21585695|gid|660|allergenic-related protein Pt2L4 [M (177) 190 176.6 0.00011 0.378 0.551 196 gi|4887129|gid|242|putative allergen protein [Prunus ar (168) 180 168.3 0.00032 0.387 0.619 181 gi|332713934|gid|660|Manioc Glu [Manihot esculenta] (177) 178 166.3 0.00042 0.378 0.561 196 gi|508732623|gid|150|omega-gliadin, partial [Triticum a (366) 149 136.7 0.019 0.182 0.490 198 gi|455288|gid|129|isoform 9 (339) 143 132.0 0.034 0.237 0.519 320 gi|2398759|gid|230|pollen allergen PhlpVb [Phleum prate (284) 139 129.8 0.045 0.265 0.563 268 gi|208605344|gid|150|D-type LMW glutenin subunit [Triti (359) 139 128.2 0.055 0.204 0.453 181 gi|1684718|gid|230|major allergen Phl p 5 [Phleum prate (281) 136 127.3 0.062 0.261 0.569 299	Modest number of matches > 35% id but less than 45%. In BLASTP a few N crassa and Sardoria. Mostly 40% ID. with most from N crassa and a few other fungi. Unlikely to cross-react.
81	>EAA33730.1 predicted protein [Neurospora crassa] MASNKTSMAGHLRKCHGDRFICRANDCMFAGSKGDVDSHLKEVHGYLGCPEAACDFVSRHEGALSRHYI KAHARRLRDEKCRANNCSFTGSKDEVKLHMKEVHKYLECPEAGCDYMGPNKIALHQHQKGIHGEKMHCP VAGCDWDGTARNFLHHKHKHGPTYKCPEPNCPVTHTAVLLKKHIRRAHARPTFTLEMVRKCEVARQAKD HEGLDWSIINDADEDEDDEDDEDDEDDEDDEEDGEDGDDEDDEEDEEDGDDEDDEEDEEDEEDEEDEE DEEDEEDEDDDEDDDEDDGDYDDTVR	gi|94468546|gid|1024|30 kDa salivary gland allergen var (273) 190 197.5 7.7e-006 0.416 0.596 89 gi|18641|gid|573|glycinin [Glycine max] (562) 179 181.1 6.2e-005 0.295 0.731 78 gi|4249568|gid|573|glycinin [Glycine max] (563) 179 181.1 6.2e-005 0.295 0.731 78 gi|2114497|gid|1024|30 kDa salivary gland allergen Aed (253) 171 179.4 7.8e-005 0.367 0.571 98 gi|806556|gid|573|A5A4B3 subunit [Glycine soja] (563) 177 179.2 8e-005 0.354 0.684 79 gi|732706|gid|573|Glycinin-like protein product [Glycin (562) 167 169.3 0.00028 0.316 0.684 79	Few hits in AOL, and by BLASTP only matches to N crassa and Sordaria t high identities. No evidence of cross-reactivity.
82	>EDO64935.2 hypothetical protein NCU10906 [Neurospora crassa OR74A] MKRIIIRIRILRNIIKDKNDSKEDNKEEDNEEENKEEEDKEEEDKEEEDKEEEDEEEEDKEEEDKEEDKEEEEDK EEDKEEEEDKEDITAVPKPSAAAALKPSATAASKLSVAAALKLSAAAALKPPATTLKLPAAIPKPSAAAALKPP ATTPKPSITTPKPINLSPTKK	gi|94468546|gid|1024|30 kDa salivary gland allergen var (273) 166 141.6 0.0099 0.392 0.649 74 gi|9967357|gid|2083|alpha subunit of beta conglycinin, (543) 155 131.3 0.037 0.361 0.750 72 gi|2114497|gid|1024|30 kDa salivary gland allergen Aed (253) 148 129.3 0.048 0.414 0.598 87 gi|18536|gid|2083|Beta-conglycinin, alpha subunit-like (605) 148 126.0 0.073 0.361 0.750 72 gi|732706|gid|573|Glycinin-like protein product [Glycin (562) 145 124.2 0.093 0.217 0.528 161 gi|9967361|gid|2084|alpha' subunit of beta-conglycinin, (559) 144 123.5 0.1 0.299 0.831 77	Three clear hits third iw 70% over 61 AA. Not likely to be cross-reactive
83	>EAA30953.1 hypothetical protein [Neurospora crassa] MRSHSFFPALIGLLPLVPGSGVAASPCRPHGPHNGGVSHAHGPGGGSHNGAGNGHGGGHGGGHGGG GHGGPPGYPPFHGNGTHGGFPPYNGNGSSPITTTTTTTTTTTTDISTTTDVTTTTGTTTTNPTTTTATTTST ASPTACSDYWLENIAHQGLAPYAIPGYSVFRSVKDFGARGDGINDDTDAINAAISSGNRCGPGCDGSTTSP ALVYFPPGTYLVSRPIIDYYYTQIIGNARCPPTIKASGNFTANWVIDSNPYQSNGNLAWGSTNVFWRQISNF IIDMTAAPPPTDPNAPGLAGIHWPSSQATSLSNIEFRMSREIGTTQQGIFIESGSGGYLGDLTFNGGRYGLQ VGNQQFTMRNLVFNNVQTAIRQIWSWGWTYQGISINNCGVGFDFTSISNDPQFLGQYQVGSITILDSSIS DTPTGILIGNANGADTRSVNNFIFENIALNNVPIAIRDLNNGGIDLAGTPVNTVIGAWGRGNEYNTATAQ NNTAGTPIAGTFTPFARPASLLTSDGRYYARSKPLYSELPASSFLSARSFGAVGNGQTDDTEALNQLFAAAA EQGKVAYIDHGQYIVTSTVFIPPGTRITGESYPQIVSAGPVFNDMANPQPVVQIGIAGQPGSIEWSDTIVST RGQQAGAIGIQYNLASAGSGQPSGMWDVHVRIGGFMGSELQLEQCAKTPTINANPPGNVDPNCIAAFM SMHITALSSGLYMENCWLWVADHDIEDEANNSQITVYAGRGLLIESLAGQIWLVGTGVEHHQMYEYQLY NTNDIEMGQIQTETAYYQPNPDARFPFPADARFHDPLFGPGEDGWGLRIVDSEGVRVYGAGLYSFFNNY DQLVCIDAKNCQRNIFSLEGTNDVSVYNLNTVGTTYMATVDGMDIIPAADNDGMFVDSVAYVHTASA	gi|817033923|gid|2551|Par h I precursor [Parthenium hys (156) 180 157.4 0.0013 0.451 0.592 71 gi|291482310|gid|1338|ragweed homologue of Art v 1 prec (134) 173 152.6 0.0024 0.431 0.653 72 gi|285005079|gid|1338|ragweed homologue of Art v 1 prec (164) 171 150.2 0.0033 0.421 0.579 76 gi|291197394|gid|1338|ragweed homologue of Art v 1 prec (164) 171 150.2 0.0033 0.421 0.579 76 gi|291482308|gid|1338|ragweed homologue of Art v 1 prec (140) 169 149.3 0.0037 0.423 0.577 71 gi|929075511|gid|3080|PREDICTED: collagen alpha-1(I) ch (1449) 145 121.4 0.13 0.262 0.472 233 gi|929097893|gid|3080|PREDICTED: collagen alpha-1(I) ch (1449) 145 121.4 0.13 0.257 0.478 226 gi|78128018|gid|509|group 15 allergen protein [Dermatop (558) 136 118.2 0.2 0.419 0.608 74 gi|27806257|gid|1565|collagen alpha-2(I) chain precurso (1364) 139 117.0 0.23 0.221 0.445 357 gi|67975089|gid|509|group 15 allergen protein short iso (532) 130 113.8 0.35 0.412 0.613 80	No significan FASTA matches, but many high identity matches above 48% ID o fungal proteins by BLASTP. Unlikely to pose a risk of food allergy.
84	>ESA43270.1 hypothetical protein, variant [Neurospora crassa OR74A] MAANMPPRAQVGQMIPPNHSQVTQAVLARLTSQPPPAAGWQATHIQLPERVQKTSSLATNLKLAGQVD TWPEAVNLALEIERRAFVQSPDKPTYENLLGQRFAQLVEQRQARAPLIQQQMQANAMRQAQMAQQQH QLQQHQLQQRQHQQHHQQQQQQQQQQQQQQQQQQQQQQQQQQQQQMMINQMAMQRGMA QPGFHPHQHPAQVTTMPHQSQPLPVGVPNPAVVQSRLDQLAMQITQSLPTALMEYHEIQRLTERDRPLIK NFALKKFVAIPEPLRDPLRQKVLSQLAPQHVQQIRGLAVDPLMIFFEHQSLNQARRNMMAQSRQGMAAH PQQVPQPHNQVNPTLMNPPGQSHGVTDGQLLPPNLEAIRNEQQMGLRAQEAGQVVVPQSQGPGAPGR NATPGPMINHMHTPAAQQGPNQTPRPPPNSAPPGFHHPPVPMETLNPAQTQAQIPIRGQVPNRHPQG QPGGLGALPTTSQSPAINNMAAPMQQSPAPMAQGMRTTLNPSFNHHANARPPSMQGNINASNPAMA AMLGNLNPNNGGVPGNLPENQIKDAMAKWDQNRNTTGNAQQLPKHPQVSGMPAQHQLIGAVNTPN QPLNMGSSQQPGGVMPPGMQPGPGQPQLNGPQNAQTAAMVALATNPRAIQMVDNWDIPAHTLNIL RGSVQPAILPPNLKKWTHLKAWYQTAGLPPHVQDKVAQLLTTFQQNQIQHVILQKQQRAQAASMGGAP QNPNGPGPSQQPNGMPLIPPKTNVPPHVLQIAPHELEMARKKFPGHSDQALQVIIRKTKFENFARRLQATN NGAGMVNQKPMVQMSPAGSNQPNMASSGPAAQTHAQYAAQTGMQVPGPSQQPPSLQQPQQPQQ MQGQLQAQPQPPAPPRAHHHQQQQQQELQQQQQQQRQQQQQQQQQQQDQQRQQQQQQVQPPV NNRQPVPQKPTDGSDSTSATPALSVSRISQQPRTGPPNPSPVVAQKSLKRSHPGDVTDVPRPNGVPMQQS LSQAKQRSAIRPTVSDRFKNIWADEARQVQKEFEQNPLQPVHMPMDVYQSAVLKIREVTQKMNELTTIPG AFDRMTNDESLVRKLARCNLKIKIQSEKATGQTRNPLTITAQEIDEIKLFFDGLVNQLKSGASQAAAQSTEQA AGQPQLHQRAGPSTLSNAAPSDKQTQVPKQAPNRASNKITQPPAAPTTTQPPFALGHGPGMSPAGNPVY LNKPPIGPTDLQWPPRKKAKTGGPQTTSPAAQSTASASPQIQAPSPETKRQQAPEPAKPQPDPYLCPEIGCE GSVVGFASAELRDIHYHEEHVKPNEDPLKFLQENMALGLGLDAHGNTKAISTVAEGAPSGASGRALNSPKQ AQTPMSKQDLAATPMARDVSMRRQGSRLGARGPDAVGTPGSGNGASAQTTMADDTWAATGVNPQY LSNLFATLDPAQTSDFSMSLSETPNDTPESNKTLESSSDISDGVGLDINMDWATMDPEIMDDLNNVSLDGY EPPAEDREMVNDVYANVTEDDSVMDESKPEKLDTSLGMMNTN	gi|288860106|gid|160|high molecular weight glutenin sub (848) 477 318.8 1.3e-012 0.259 0.508 780 gi|508732623|gid|150|omega-gliadin, partial [Triticum a (366) 340 235.0 6.2e-008 0.302 0.503 358 gi|208605344|gid|150|D-type LMW glutenin subunit [Triti (359) 333 230.6 1.1e-007 0.289 0.496 363 gi|508732625|gid|160|high molecular weight glutenin sub (794) 319 218.6 5.1e-007 0.244 0.518 759 gi|170743|gid|160|HMW glutenin subunit Ax2* [Triticum a (815) 319 218.5 5.2e-007 0.244 0.518 759 gi|208605348|gid|150|D-type LMW glutenin subunit [Triti (346) 310 216.1 7e-007 0.278 0.528 352 gi|21743|gid|160|high molecular weight glutenin subunit (830) 311 213.3 1e-006 0.247 0.458 862 gi|75317968|gid|154|LMM glutenin 3 (373) 304 212.0 1.2e-006 0.292 0.516 397 gi|21783|gid|154|LMW glutenin-like protein product [Tri (356) 292 204.6 3.1e-006 0.281 0.552 306 gi|335331566|gid|154|low molecular weight glutenin [Tri (369) 289 202.5 4e-006 0.282 0.534 380 gi|170740|gid|151|gliadin (296) 287 202.1 4.2e-006 0.407 0.563 135 gi|1137166044|gid|151|alpha-gliadin, partial [Triticum (293) 279 197.1 8e-006 0.408 0.592 130 gi|21757|gid|151|Gliadin-like protein product [Triticum (296) 277 195.8 9.5e-006 0.400 0.563 135 gi|73912496|gid|150|omega-5 gliadin [Triticum aestivum] (439) 278 194.8 1.1e-005 0.280 0.557 440 gi|22090|gid|160|HMW glutenin subunit 1By9 [Triticum ae (705) 280 194.2 1.2e-005 0.250 0.490 645 gi|21673|gid|151|Alpha/beta gliadin-like protein produc (307) 274 193.7 1.2e-005 0.317 0.541 246 gi|21761|gid|151|Gliadin-like protein product [Triticum (286) 273 193.4 1.3e-005 0.389 0.571 126	Few N crassa and Sordario over79% over 80, tten much lower. No realistic risks of cross-reactivity.

	F	G	H
85	>EAA36535.3 RING-13 protein [Neurospora crassa OR74A] MTTPSRATAFSTRASLRQTRTGSPSPNPQPQPTAEAKDLADLEINLTIQLELRAQLQEGPETDESKAILIETN DKICDIVSNMDRIRASRGSPMYAGFRGTADGGRSPAGTATAQQRARQQGNQVRQQQTQRGLNPQQHP PQRPPQRQQQQQHQQQGQQRPLQGLYQQEQENLQQHPQQHESRVDGSEDAQNSFSGFVPRERKRSIG TSLGNDALNDTGRSSKRTASGSGTSDHSTFSDPFNASTFAGNGIDPFDDNFGFDNGFDFGPLIDLTDDVDV DALLGQQFAQATSTSSATLTPTSPSAPYQSNQVSYHGPQAGIPHNTSLPAPQIPASVRQLYNTPDLLPDINN WNGPFHNPAVSSRSSTSRSSRPARPQLPSSSNSIFSSDNRSLAFPSLPGGLVTVDSSRPGTLINGDYYAPNNS GSSRVHIPSLTDVISRTATYDFTSMTDLLGNPLDERLTTLDLDDPLKREDEISKLLSNIRPDEDIPPEERGDTPPD LKYPLYPHQQLALKWMTDMEGGHNRGGILADDMGLGKTISTLALMASRRAPEGEVVTNLIVGPVALIKQ WELEIQNKMKEDRRMKVVLYHGGSKKKPWTELQKYDVVLTTYGTLTAQFKKHHHYLEKNTESLNGLDEQA EKRYRLECPMLHPSTKFFRVILDEAQCVKNANTMQSRAVRQVRATYRWCLTGTPMMNSVSELSSLLRFLQI KPFCDEKKFKEAFASLDHKYTGRDVEKSTAMKQLQALLKAIMLRRRMKTTVIDGNPILNLPPKSLYTEHVEFSE GELEFYKNLQEKSQVIYGRYVRNNTVGKNYSNILVLLLRLRQACCHPHLTDFEANPKNHLAEATMIELAKTLE PVVIDRLKQIKAFECPICYDAVIDPTILLPCGHDICADCFSSLTDQSAMNGIRNGQDGANVAKCPVCRGPAD HTRVTNYTSFQAAHMPEALEKLDNDDADSLVGDGSDTSDGSLGSLSGEKKRKAKSEGKRPTKVKPEEKED WKPTVFDQLRKEANASRNQDARDRLLQYTWDHWQDSAKVSRVTELVDQFQQFNEKTIIFSQWTSHLDLIE CSLKFKLNIKYRRYTGNMSRSQRDNAIQAFVEDPDVKVLLVSLKAGNAGLNLTVASRVIVCDPFWNPFIEDQ AVDRAYRIGQQREVHVYKILVQETIEDRIIELQNLKRNIVETALDETEGKQLARLSIDDLNYLFTGRRGGARQ	gi|283476402|gid|1617|alpha/beta gliadin precursor [Tri (281) 167 138.1 0.016 0.254 0.535 185 gi|75317968|gid|154|LMM glutenin 3 (373) 167 136.1 0.02 0.407 0.642 81 gi|208605346|gid|150|D-type LMW glutenin subunit [Triti (272) 161 133.9 0.027 0.363 0.529 102 gi|1137166044|gid|151|alpha-gliadin, partial [Triticum (293) 160 132.6 0.031 0.446 0.615 65 gi|208605348|gid|150|D-type LMW glutenin subunit [Triti (346) 161 132.2 0.033 0.363 0.529 102 gi|21783|gid|154|LMW glutenin-like protein product [Tri (356) 161 132.0 0.034 0.372 0.570 86 gi|170736|gid|152|gamma-gliadin (251) 156 130.7 0.04 0.398 0.602 83 gi|73912496|gid|150|omega-5 gliadin [Triticum aestivum] (439) 161 130.5 0.041 0.314 0.562 121 gi|170724|gid|151|pre-alpha-/beta-gliadin A-IV (297) 157 130.3 0.042 0.425 0.562 73 gi|170710|gid|151|alpha-type gliadin precursor protein (318) 156 129.0 0.05 0.492 0.623 61 gi|21761|gid|151|Gliadin-like protein product [Triticum (286) 155 129.0 0.05 0.446 0.600 65 gi|1063270|gid|152|gamma-gliadin precursor [Triticum ae (279) 153 127.7 0.059 0.378 0.622 74 gi|170712|gid|151|pre-alpha-/beta-gliadin A-II (291) 153 127.4 0.061 0.425 0.548 73 gi|170708|gid|152|gamma-gliadin B precursor (291) 153 127.4 0.061 0.402 0.598 82	Allergens partial low identity matches of 38-40% ID. By BLASTP, more than 44% ID for 100 taxa and proteins mostly fungi. Little chance of cross-reactivity.
86	>ESA44114.1 exochitinase, variant [Neurospora crassa OR74A] MVFVPSLRLLAVSLVALLEPVSAIWPAPQSFTKGNSSLYLHPKINVTYNGEPLVYKEDYFASSLSSKEIVHAGVS RALGSIFSRNIVPWMLQPRGKLSEFEPDLYKGQNWIKSLEIDQTAKDAKTAFKPALAGEVSEAYSLTLSVEGD VKLTADSYIGVLHGLETFTQLFYQHSTGTSWYTPYAPVEIKDEPKYPHRGILLDVARTFMPVKNILRTIDGMA TSKLNRLHVHVTDSQSWPLQIISMPEVAEKGAYHSSQTYSPADIDLIQKYGALRGVQVVYFEIDMPGHIGSLSL SHPDLIVAYDQWPYQWYCVEPPCGAFKLNDTKVDDFLGKLWDDLLPRVAPYSAYFHTGGDELNRNDSML DDGIKSNDTEVLRPLLQRFVDKQHERIRKEGLTPLTWEEIPIEWNVNLGKDVVVQTWLGQSSVKNLTSRGH KVIDSNYNFWYLDCGRGQWLNFDNADYAAFSPFLDWCSPYKSWRHVYSYDPAANLTEEEAKLILGGEVA VWAESIDPIALDTIIWPRASAAGEVLWSGRIDPATGQNRTQLDAAPRLSELRERLVARGVQSSSVYMTWC TDDPTGKSCEYPRV	gi|999009|gid|247|68 kDa allergen [Penicillium chrysoge (117) 313 385.9 2.4e-016 0.405 0.775 111 gi|2580504|gid|210|Cr-PII [Periplaneta americana] (395) 93 110.0 0.57 0.259 0.559 143	AOL, one match of 40% for a Penecillium protein, unlikely. Many >58% identity by BLASTP to 100 proteins and taxa. Little likelihood of cross-reactivity.
87	>EAA36453.3 MADS-box MEF2 type transcription factor [Neurospora crassa OR74A] MGRRKIEIKAIKDRNRSVTFLKRKGGLFKKAHELSVLCSVDVAVIIFGNNKKLYEYSSSNIRDILQRYTYHGGF NEHKGPSDFNGGADDDDDDDENGTNSQGEQHMMYQPNPPVSYPFLRHTSLSDSPPVPNGAFGPQPGH QMSRAHTPQPPFVARPPSVNDIRRLRPGQPVRPAGVAQELQNRSAFVPSPPIYNSQPPASMAPTHGLPTQ LHPQYPFQPSQPPAHSMQQFEDQRRSPLPPTFVSQPPPHPAHRHSTSPPELLQPQIPQQQVHRHSASPQVM QAQLPQQPQRLPSANMSPPPPQPAQPPQQQQQQQHRHQQQQPQSMPNQNLQPPAPPKPESMERPRRL PALNTSVKNPGQGSVFTPIEPENKSILSQHFAAFRPEIKSESPNNRSQSVDGGNVSKPNTSTPSIQLSSAHGQ GSAQRTNSLTVISQSTLPPPSRPQHLRVGGGPLRPRLKVQIPDDSDSGSAAGSASSPRVTTTTDSAPQPLKTQ SVLPPPSPSASNLPSAGATGPPNPFAPRSTIQHNNNMNIDTPVSALPSRFLGDLLPSPSRFYPEWGYGISAES NTLPSPLNFATPVNGTGPSFLRDDPTPLKRKSPETKSTGPENDTGNNQDAKRMRLES	gi|508732623|gid|150|omega-gliadin, partial [Triticum a (366) 357 318.1 1.5e-012 0.298 0.542 349 gi|208605344|gid|150|D-type LMW glutenin subunit [Triti (359) 314 281.4 1.6e-010 0.300 0.509 407 gi|73912496|gid|150|omega-5 gliadin [Triticum aestivum] (439) 280 251.1 7.9e-009 0.244 0.532 427 gi|75317968|gid|154|LMM glutenin 3 (373) 269 242.6 2.4e-008 0.324 0.509 222 gi|170740|gid|151|gliadin (296) 263 238.8 3.8e-008 0.284 0.532 282 gi|208605348|gid|150|D-type LMW glutenin subunit [Triti (346) 260 235.3 6e-008 0.296 0.549 257 gi|21673|gid|151|Alpha/beta gliadin-like protein produc (307) 257 233.4 7.6e-008 0.289 0.535 284 gi|21757|gid|151|Gliadin-like protein product [Triticum (296) 250 227.6 1.6e-007 0.282 0.535 273 gi|208605346|gid|150|D-type LMW glutenin subunit [Triti (272) 246 224.7 2.3e-007 0.309 0.532 269 gi|170724|gid|151|pre-alpha-/beta-gliadin A-IV (297) 246 224.2 2.5e-007 0.404 0.582 146 gi|21783|gid|154|LMW glutenin-like protein product [Tri (356) 246 223.1 2.8e-007 0.344 0.577 189 gi|886967|gid|154|low molecular weight glutenin [Tritic (276) 243 222.0 3.3e-007 0.326 0.506 178 gi|170710|gid|151|alpha-type gliadin precursor protein (318) 239 217.8 5.7e-007 0.310 0.491 281 gi|21756|gid|154|Alpha/beta-gliadin-like protein produc (286) 239 209.8 1.6e-006 0.404 0.589 141	AOL, matches are poor, no risks. BLASTP alignments down to 48% id but partials from 100 taxa and proteins. Little risk of cross-reactivity.
88	>ESA41821.1 histone H1, variant [Neurospora crassa OR74A] MLQLKDRAGSSRQALKKYVRANNTLGNVTDNMFDSLFNKALKNGVDKGVFEQPKGPSGGTKLAKKVAKP APKKAAPKKETKEKKPAAAKKEGAAKKETKEKKAPAAKKAAAPKKAAAPKKEVKEKKAAAPKKKAAAPAVA DKETVLTKTKSGRVAKSTAKPAAAKKAAAPKKAAASKKAEKAEPAAEKA	gi|4887129|gid|242|putative allergen protein [Prunus ar (168) 136 130.0 0.044 0.333 0.579 126 gi|1480457|gid|594|latex allergen (151) 132 127.2 0.063 0.324 0.522 136 gi|455288|gid|129|isoform 9 (339) 118 112.7 0.4 0.404 0.618 89 gi|18093971|gid|482|group 5 isoallergen [Dactylis glome (265) 116 112.1 0.44 0.287 0.515 136 gi|14423124|gid|482|group 5 allergen precursor [Dactyli (290) 111 107.7 0.77 0.279 0.515 136 gi|2266623|gid|595|group V grass pollen allergen [Holcu (240) 109 106.8 0.86 0.256 0.528 180	Matches in AOL poor. BLASTP to high identities of 87% ID over 60 or more amino acids down to 65% over partial alignments with relatively high identities, but little chance of cross-reactivity.
89	>EAA32191.1 hypothetical protein [Neurospora crassa] MPKFFCDYCDVYLTHDSMSVRKAHNSGRNHLRNVVDYYQQIGHEKAQSVIDSITSSYAAEGQAHANPML PQNQPGGVPPGLGFPPPGAGVPPFPPFPGGMPPPPFPGMPGGAPVPPPGAFGAPGVPGGIPPPGAPGAR GMPPMPPFPGMPGAPAGIPGVPPPMPGPGGLPFPPPGGLPFPPPGAGNFPFPPPGAPGAFPGMPPFGA PGQGPPGADKR	gi|1079717942|gid|3017|PREDICTED: collagen alpha-2(I) c (1355) 285 236.4 5.2e-008 0.417 0.519 156 gi|1079717864|gid|3017|PREDICTED: collagen alpha-1(I) c (1449) 267 222.1 3.3e-007 0.417 0.538 156 gi|929075511|gid|3080|PREDICTED: collagen alpha-1(I) ch (1449) 258 215.1 8e-007 0.370 0.494 154 gi|929097893|gid|3080|PREDICTED: collagen alpha-1(I) ch (1449) 253 211.2 1.3e-006 0.370 0.494 154 gi|27806257|gid|1565|collagen alpha-2(I) chain precurso (1364) 223 187.9 2.6e-005 0.403 0.511 186 gi|929312453|gid|3080|PREDICTED: collagen alpha-2(I) ch (1356) 209 177.0 0.00011 0.331 0.500 178 gi|817033923|gid|2551|Par h I precursor [Parthenium hys (156) 197 174.7 0.00014 0.456 0.533 90 gi|929244458|gid|3080|PREDICTED: collagen alpha-2(I) ch (1356) 194 165.3 0.00047 0.376 0.500 178 gi|1026259961|gid|2658|Art gm 1.0102 allergen precursor (132) 184 165.1 0.00049 0.556 0.648 54 gi|508732623|gid|150|omega-gliadin, partial [Triticum a (366) 178 157.1 0.0014 0.296 0.426 162	AOL, matches modest 41% and then shorter. BLASTP Identities of high identity, over 90% but short alignments 30% . No real risk of cross-reactivity.
90	>ESA43333.1 hypothetical protein NCU16676 [Neurospora crassa OR74A] MKPSPIRPVAGPGSGVQRGAVGQVPGAVGQVQVGSVGLQAGSAPGQGQVPASRLTPGPGPTKVTKPTT PARSRTGASPHSLVRNSQLVQQLAAHEAQLQQFQQQQQLQQQQQQQQQHQQHQQQQQNLATNLSPDQ DPNHVNQIHPQLQAQLQLQHQQAQEHDLHSHHLQQHQPDQTQDHLQHQQEQHQEPDIDQDSLKPDPSA YDDPTARMGTEEYAAAAAAAVMETGLGQPGSLNDGTGEPDVDAEMEDQDASAAANSGLGGHVDLSG AGMLGNPGAPGGVPQPSPQDHSQHQQHQHQQQQQHQHHQQQQQQQHQQQQQQHQQQQQQADMIG GLGQPQAHPHQHQHQPPVAPMGQPQQMQPSPHQHPMDPQLSKSTEDMAHESGYGQLNVESALAKRL AREPGHRLAQQRRPEQVLNLARRSNVEALFAHIAGEPARVPCKNCHKGHGPWTSCIVVDGQMCGSCAN CWFNASGARCSFHETRNPQNSQQQQHNAAILPNGANGGINISADPNAFRFGTPHPLGTHAALAAPAPVS AIAPAAPSMSNPMLQHMLNRALSEVRSADKATRQLILMECAAKKLALKMVDYEELISSQEQSGNAGGPG QQGLGEDAGA	gi|736319|gid|160|glutenin [Triticum aestivum] (838) 376 300.8 1.4e-011 0.287 0.482 467 gi|288860106|gid|160|high molecular weight glutenin sub (848) 374 299.1 1.7e-011 0.290 0.498 520 gi|208605348|gid|150|D-type LMW glutenin subunit [Triti (346) 351 286.5 8.4e-011 0.289 0.499 353 gi|21751|gid|160|high molecular weight glutenin subunit (648) 351 282.7 1.4e-010 0.292 0.523 394 gi|21779|gid|160|HMW glutenin-like protein product [Tri (660) 347 279.5 2.1e-010 0.298 0.510 406 gi|73912496|gid|150|omega-5 gliadin [Triticum aestivum] (439) 322 262.4 1.9e-009 0.285 0.501 393 gi|22090|gid|160|HMW glutenin subunit 1By9 [Triticum ae (705) 323 260.3 2.4e-009 0.301 0.522 372 gi|71084277|gid|160|HMW glutenin x-type subunit Bx7 pre (795) 281 226.7 1.8e-007 0.262 0.498 558 gi|21743|gid|160|high molecular weight glutenin subunit (830) 278 224.1 2.5e-007 0.275 0.519 541	Modest AOL sequence identities to 30% but gaps. Triticul glutens. Sequence identities down to 40% ID but short segments from over 100 taxa and proteins

	F	G	H
91	>EAA36477.1 PROBABLE GLUCOSE TRANSPORTER RCO-3 [Neurospora crassa] MAIFAMGWQKPDNVAGSSAPAIMVGLFVATGGLLLGYDTGTINGILAMKSFKDHFSTGYIDGNGQPGIY PKESALIVAMLSAGTAIGALLAAPLGDHYGRRRSLIGAIGIFVIGAILQVCAYNIDLLVAGRTVAGVGIGIVSVL VPLYQSEMAPKWIRGTLVCTYQLSITMGLLAAAVVNILTYKLKTAAAYRVPIGLQLTWACVLALGLTVLPETP RYLIKRGDKNAAALSLSRLRRLDITHPALVEELAEIEANHQYEMALGPDSYKDILFGEPHLGRRTFTGCCLQM LQQLTGVNFIMYYGTTFFNNAGVGNPFKISLIMQVINTASTIPGLFVVESWGRRRLLMVGAIGMAICQLLIA AFATASGSNNLSAQNKVLITFVAIYIFFFAASWGPVVWVVTSEIYPLKVRAKSMSITTASNWFLNFGIAYGT PYMQTNSAASDESSIDLGSKVFFVWGAFCIVAVGFVWCMVYETSKISLEQIDEMYERVDHAWHSRRFEPS WSFQEMRDLGFSDGGIPPTQQLQQQPQQPQQQQQQHHQQQQHQLQVDLQQSQSRTSNSSTSQTDTG GSNNTGASQDDKLVASLGNIDLSY	gi|283476402|gid|1617|alpha/beta gliadin precursor [(281) 155 37.7 0.0017 0.466 0.724 58 gi|21765|gid|151|Gliadin-like protein product [Triti (313) 155 37.6 0.002 0.468 0.710 62 +- 137 34.5 0.018 0.464 0.643 56 gi|170718|gid|151|alpha/beta-gliadin precursor (313) 155 37.6 0.002 0.468 0.710 62 gi|1137166044|gid|151|alpha-gliadin, partial [Tritic (293) 144 35.7 0.0069 0.481 0.685 54 gi|170728|gid|151|alpha-type gliadin (186) 132 33.9 0.016 0.595 0.703 37 gi|170710|gid|151|alpha-type gliadin precursor prote (318) 137 34.4 0.018 0.468 0.726 62 gi|170722|gid|151|pre-alpha-/beta-gliadin A-I (262) 134 34.0 0.02 0.606 0.788 33	AOL alignments not much. BLASTP identities down to 61% ID over 100 proteins / taxa. Little risk of cross-reactivity.
92	>EAA34840.3 Fso1 [Neurospora crassa OR74A] MSRSRGVPDEELFISRPRPSDEDCDSPTVEPLRIFKPMSPKLPGAADKASENRYKYPAPPTSSAASASASKPSI APLPGLPGLPPLPSFPLPPGASSSAAPLPYPDDDLSRPTQASKPARAPYPVDDVRRPSPASSTGRIYSPPPVSS SPQLHNDTTPRLNISPIEKKPGLADRRGAVPKPLQSPDSPNGDDLFAKPLGRPPQQPALQPVHPAQKISNAY QQKPYYPPPGGGNVRMNSEPSIARISSTASTSTTRASRGSPPPPETPIVEPGVVPGGGIEARYAAAGISGTA TLTSLQAQTAQSAAAQSRLAQYGGQRPPSQPQQHSQHPALAQSQQQQQQPQAQAQPPRPWTPTETPDQ QPFGPPTVVQGDAVAQNPQPARPQPQQQNSFNLPKNPEPVSNAPAGSSLQVSVLEQDFQRMQASTPPP AYSSVTPNASSNYPAEKQRPAQTHPATASTTTTTTNNNNNSHSNNATPNPTSRPATTASGSSSRPVNTAS PAPASSIHKPKPVAVAASQTPAQQHPGHPAFANEPQHPAQVAHNVGHPALQHTPSLMASTQAPPPLPEG WIAHLDQNSGQYYYIHLATQATQWEFPKGPNPISHEAAPLSPTASTYGNPLASPLLGGKTGLASPMFHPQT PGYAESIMTVASAAPSGFTGPPPSAGVDMYKIMPTNGVYFGPYLRYVNMDLEKGVWHGSILIVTDAPQPP TIHIHLSVDLSPNPRQLIPHNIWTHQRWVFYKYDMDLQMSEHGTERWTYAVTSHLGCTRYEFIVAGRYET GWRMIAHSGNDFAPSTNQNERAKLGGVGFMWKDILQKNVECGGFHVQLGLGDQIYGDRLWREVPILKQ WLAIAGRENRKNVPWTARHEEDVTHAYFHYYTSHFDQPFMREAFAQIPHVLQIDDHDIFDGFGSYPEYM QSSAIFKNIGRIAIDMYLLFQHHTTVEMLRNVSSDMDLFTITGAGWHFVKYLGPAVVVVGPDCRSERTQTR VMAGPTYQGLFPKVAMLPPSVQHCIWMLSVPVVYPRLETVETLANTFATGKKAVNTTYNLLGKVTSSVAG VVGGKEVVAHGFKEVKRAVGKSGLMGNVLNQFGEIDIAEELKDLWTHESKDLERTYLIRTLQGIAQQKGIR MTFLSGDVNSAGAGLLHDPSHPSDHKTMYQLITSPIVAAPCSSYLLKALHSGSNSNKLLYVPLNGHKSTHEVS DTKEDMMEIFHTDASGAAREYKKLMARRNYVAIVAYDPDAGVNMGMGMGGLQQTGYAASVHSGGSN	gi|508732623|gid|150|omega-gliadin, partial [Triticu (366) 280 70.1 8.7e-013 0.261 0.467 330 gi|208605344|gid|150|D-type LMW glutenin subunit [Tr (359) 252 63.7 7e-011 0.245 0.465 387 gi|736319|gid|160|glutenin [Triticum aestivum] (838) 252 63.5 1.9e-010 0.231 0.497 719 gi|1079717864|gid|3017|PREDICTED: collagen alpha-1(I (1449) 252 63.4 3.5e-010 0.232 0.461 671 gi|73912496|gid|150|omega-5 gliadin [Triticum aestiv (439) 240 60.9 6e-010 0.233 0.441 454 gi|508732625|gid|160|high molecular weight glutenin (794) 235 59.6 2.7e-009 0.222 0.475 689 gi|170743|gid|160|HMW glutenin subunit Ax2* [Triticu (815) 235 59.6 2.7e-009 0.222 0.475 689 gi|288860106|gid|160|high molecular weight glutenin (848) 231 58.7 5.4e-009 0.237 0.484 632 gi|886967|gid|154|low molecular weight glutenin [Tri (276) 220 56.5 7.8e-009 0.253 0.484 281 gi|21783|gid|154|LMW glutenin-like protein product [(356) 210 54.1 5.3e-008 0.255 0.477 306 gi|208605348|gid|150|D-type LMW glutenin subunit [Tr (346) 207 53.4 8.2e-008 0.228 0.466 307 gi|170702|gid|152|gamma gliadin precursor (302) 201 52.1 1.8e-007 0.398 0.541 98 gi|75317968|gid|154|LMM glutenin 3 (373) 202 52.3 2e-007 0.327 0.545 165 gi|1063270|gid|152|gamma-gliadin precursor [Triticum (279) 199 51.7 2.2e-007 0.378 0.523 111 gi|170738|gid|152|gamma-gliadin (327) 199 51.6 2.7e-007 0.349 0.503 175 gi|21779|gid|160|HMW glutenin-like protein product [(660) 200 51.6 5.4e-007 0.215 0.490 651 gi|335331566|gid|154|low molecular weight glutenin [(369) 192 50.0 9.6e-007 0.240 0.481 337	Identity maches AOL all poor, below 40%. BLASTP 100 proteins >64% . Little chance of cross-reactivity.
93	>ESA42137.1 eukaryotic peptide chain release factor GTP-binding subunit [Neurospora crassa OR74A] MSGNVQNNWEEAADQDERLARQTQQQMNINAGTFRPGAAAFTPGAPSFTPGQFAAPGFTPQYQQQY YGGA QQGYGGGYPQYGQQGYGQYNNQQQQGYGAVYGQQGYNQGYAGQQQQQQQQQQYGGYQQNQGY QQRQQQNR DAPKPAPQIVKRPEQPAAQAQPKADAPKTAAAPVKVLSVGGDAPAKVLSIGGDAPKPAAKVLSISGTAPA KEEPKKEAAKKEGTAEAAAKVTATKAVQKTESAAASGRTSPAPSSGRASPSAAKSGNKVSRDVDAVEKDI QSADVDEDTLKEIYGKEHMNIIFIGHVDAGKSTLGGAILYVTGMVDQRTLDKYKREAKDMGRETWYLSWA LDLTNEERAKGKTVEVGRGFFETDKRKYSILDAPGHKTYVPNMIGGASQADVGILVISARKGEYETGFEK GGQTREHAMLAKTQGVNKLVVVINKMDDPTVNWSEERYKECTTKLAQFLKGTGYNLKTDVFFMPVAAQ QT MGIKDRVPKDLCPWYDGPSLLEYLDNMSSLERKVNAPFMMAVSGKYRDMGTMIEGKIEAGVIKKGMSLI M MPNKQSIEISAVYGETEDEVPVAQCGEQVRLRLRGIEEEEIMPGFVLCSPKRLVHNVTAFEAQIRILDLK SILTAGFNCVLHVHAAIEEVTFAALLHKLQKGTNRKSKLPPSHAKKGDSIIARLEVTGGAGSVCVERFED	gi|288860106|gid|160|high molecular weight glutenin (848) 240 40.7 0.00076 0.296 0.490 257 gi|21743|gid|160|high molecular weight glutenin subu (830) 209 37.3 0.008 0.327 0.494 168 +- 194 35.6 0.025 0.297 0.521 165 gi|736319|gid|160|glutenin [Triticum aestivum] (838) 208 37.2 0.0087 0.283 0.507 272 gi|73912496|gid|150|omega-5 gliadin [Triticum aestiv (439) 200 36.2 0.0093 0.297 0.485 202 gi|62240392|gid|837|11S globulin precursor [Sinapis (523) 196 35.8 0.015 0.249 0.505 333 gi|22090|gid|160|HMW glutenin subunit 1By9 [Triticum (705) 199 36.2 0.015 0.396 0.511 139 +- 194 35.6 0.022 0.320 0.489 178 +- 190 35.2 0.03 0.365 0.491 167 gi|21751|gid|160|high molecular weight glutenin subu (648) 191 35.3 0.026 0.377 0.497 167 gi|21779|gid|160|HMW glutenin-like protein product [(660) 189 35.0 0.03 0.263 0.510 243 +- 205 36.8 0.009 0.365 0.491 167 gi|508732623|gid|150|omega-gliadin, partial [Triticu (366) 181 34.0 0.034 0.320 0.484 128 gi|21783|gid|154|LMW glutenin-like protein product [(356) 170 32.8 0.078 0.336 0.516 128 gi|21673|gid|151|Alpha/beta gliadin-like protein pro (307) 166 32.3 0.093 0.361 0.459 122	> 68% ID for 100 Taxa and proteins
94	>EAA27978.2 pH-response transcription factor pacC/RIM101 [Neurospora crassa OR74A] MSSTPAQENGTVNGANAAPAPAPAQTTPTPAPATAATPTTAPAASANGTAANAMKPEASSNSSNSASN GTTPAPSTTPTTASNSSAPAAAQDESLVCRWAECNERFTSAEVLYEHICEKHVGRKSTNNLNLTCQWNSC RTTTVKRDHITSHVRVHVPLKPHKCDFCGKCFKRPQDLKKHVKTHADDSVLVGRSPQDQNGGMNGAYRA QAPVHKAPSGFYDHNGHMRGTNQVPFGQPHQNGQASYYHAQYPASQPYHAPMYYPAQTMGGQRND FTGHQAAPFDARKRQFDDLNDFFGSVKRRQINPTSYESVGRALMPLHAPLGLHSGGLATEYMAQPPHTLG MASAHHPLTQHYYLPPMPNLRTKEDQQMDHFLEQMQATVYENTAVDMRHHSPTYATRPSIDPYHGASL ASPLSATSPHSAGTPAVTPTPSNMSYTSGHSPSTSSTSLSPTSRHSSTPSVSYPTLPSRPGLPYPSTSGLGSNFT HNERRLSGGVLQSARRAADEADRAPTPKASEQATVSSPSEDSETGDVNGPETYDDWLQHMRVIEYLRQGI RARLERQDEDEDDTSRIDRMVLESSDRNQQQRNQQQQQQKSRNERTAAGRSAREKRLYRVLRRH	gi|666431137|gid|321|allergen Asp F7 [Aspergillus fu (270) 132 30.8 0.2 0.395 0.642 81 gi|83300389|gid|321|Allergen Asp f 7 precursor (270) 131 30.7 0.22 0.395 0.630 81 gi|21751|gid|160|high molecular weight glutenin subu (648) 132 30.3 0.69 0.190 0.515 373	AOL all low, less than 40% ID. BLASTP >48% ID with 100 taxa and proteins across diverse species. No risks of cross-reactivity.
95	>EAA28880.3 hypothetical protein NCU10001 [Neurospora crassa OR74A] MRRSERPRRIDDSHRYKSYHSGVGDHDFPPGPATAPLGSPRETRSHVGRLERDRGDLDRDREQRPKPRLV GSSSTISSHYPSSSSSRRRQDSNFEHVPRHARTRSLSVPRSFSPPPSDDETSAQDSDEERRRLRARHTPKTKTR EHYPSGSHHRPSLQYYNDRASLSGSRLAGWPNASSRPPSRSPDPVRPKRMDRELRRDLFDRASFHQLGDD RDSLFSTPSEPNLRARLNMGVDPGLGSPRKPSALSRSGTGTFEYEGRQGGLGLRKPGTSSRAPSVAPSYCH AAPENPQYAQVRVLILTWAFHDLKVSDSDAHPYMFGPGSEFVSLEEETRRLRDTFESYGYTVDDWLIPMRD PLKAVLTKLAQFSKWANDETLLIVYYHGHGSLDERRELVFSSHEHPTDAQWAQTAAAELYAAILNQDACTH LGKPTTPYHELMKKYERYRPISKVKWSDIRSAILGINSDLLLILDCCAAGGANLDMEHSDATDTYHNTDPSTG KIYTKHLFAACGFESSTSDDMTSAMCDVLDEWPAGPDDAALQDLVTTGHGGGGGGGYTGKWLTTRKLH QIVESKLQRNAGMTAVGLRSASQPIFKQLLPVDLPERYITLPNLQGRQRSRNQSRGRNRHSHGQVAPSAVD ADPTVGSTMNGGTEYGIDAEIPTHTHAHAHTHAHPGSATQVGLGTARSRSRFSARDLSLGRISSRAERDRE SGLRERDGSVRDSGRERDRDRERDRERERDSREEEGWDVVSMREGLRERDGSVRESGSARE	AOL not meaningful alignments. BLASTP in Proteins, quickly down to 40% identities over partial alignments. Broad taxa. Little or no chance for cross-reactivity.

	F	G	H
96	>EAA35501.1 hypothetical protein [Neurospora crassa] MSRGQQPSILSFFQPRQQQQQQPQHAPDCVNGAATTASMLPKTPVPPPPAPPPSSLTSAPPPQQVPARP GLGLVTATLPANIPVLPSPPSIPSQANIVAVAEHHIAALRRINSLLLQVAYPDAFYAKVLEPLASGLFSRVILWS DDPTSEPKVIGGVVCRLEPNPFLDPNGQPQAPRIQQNQPGPSAPIDYPYHAIYIQSLALLSPYRSLGLAAAAL EHIIASASILPAAGSTINVRTIYAHVWTENEEGLQWYGQRGFRTEGRDPVRGYYFKLRPDTAWIVRRDIGE HGRQAQAQEPLGAANYSLPKRNPNHLLQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQPTGW IMTSSTTTATASATATGVLAAAVNLPSLTTPPPKTPVAPPPSSSTSTSASTPALAPPSTTTTSTTRPPLSRPSTG MSYQNTRPETEWNDLPPEMVQLNVPGSGSGAGASATASGATSAVSSRSSSVAPKKKKGRAYPSAAFGQ	gi|170710|gid|151|alpha-type gliadin precursor prote (318) 226 35.2 0.0088 0.270 0.479 267 gi|283476402|gid|1617|alpha/beta gliadin precursor [(281) 220 34.6 0.012 0.296 0.484 250 gi|21765|gid|151|Gliadin-like protein product [Triti (313) 196 32.4 0.061 0.394 0.548 104 gi|170718|gid|151|alpha/beta-gliadin precursor (313) 196 32.4 0.061 0.394 0.548 104 gi|1137166044|gid|151|alpha-gliadin, partial [Tritic (293) 195 32.3 0.061 0.463 0.610 82 gi|21673|gid|151|Alpha/beta gliadin-like protein pro (307) 192 32.0 0.077 0.479 0.662 71 gi|508732623|gid|150|omega-gliadin, partial [Triticu (366) 194 32.2 0.08 0.253 0.438 372	AOL few matches all below 40% ID. BLASTP many long matches >90% ID Diverse fungal proteins.
97	>EAA33123.3 myosin regulatory light chain cdc4 [Neurospora crassa OR74A] MASTNYKEAFSLFDKRGNGRVALDSLGDLLRACGQNPTLAEIRELEKNVGGDFDFETFQRVLNRPGGFRDP GEPEEYCRGFQVFDKDMTGFIGVGQLKYILTNLGEKMTDEEVDELLKAVDTSSGQVNYTELVRTILAN	gi|55584149|gid|2475|RecName: Full=Myosin light chai (192) 349 72.8 7.3e-015 0.393 0.743 140 gi|219815476|gid|1544|troponin C [Tyrophagus putresc (153) 216 48.6 1.1e-007 0.281 0.640 139 gi|238477333|gid|1743|troponin C [Crangon crangon] (150) 198 45.3 1.1e-006 0.301 0.669 136 gi|238477331|gid|1742|myosin light chain [Crangon cr (153) 198 45.3 1.1e-006 0.287 0.603 136 gi|401606251|gid|2845|myosin light chain 1 [Procamba (153) 196 44.9 1.4e-006 0.330 0.635 115	AOL, no meaningful alignments. BLASTP many >91% identity over 100 taxa and proteins. Diverse. No chance for cross-reactivity.
98	>ESA42538.1 hypothetical protein, variant [Neurospora crassa OR74A] MAVATPDSPAGQIAQALVDFSVKGAFPEESVSSLTVDSDALPAAIEALASAKAKLQAEIHTINEETADDVRT WKANAQLVQDDIILSKALANDILKQSEAPQASGKAIEEAETRAAFLARELDYNTQLRNALKGIKAVNQILDQ VEQARDERRILDALHLLERSRKVLDAVPVNKSCRAIKLLDIRAFELKSDVYQVFDHVVWNTLIHVDIESHRVSIS GVKQDEPMSLSDAVVGLKTYNEVDQRATQLWHDIDKAIFAPRLDTKQERLPSIKINGNTLELEGTSDQAIEA VFQDLEKVFAFLVEKLPPELVETISTVLLPGLIPTMTRTWLDLAVPSSLEGMDRFQTTISTTKGFCTTLKGLGLS HLNELQEWTESAPRVWLSKRREAALDQIRTQLSQGLGASKQVERVEKQVVSKSEGQQLAANGAKVTEDD GGWDAWESDGEQQTGGQQISKPAATTSATELSADAIDDAADAWGWGEEDPEPDKVEEPQQKKQKQE GEEDDDPTEAWGWGDDAQNDDTAPEQTPTALLASSKPQTRELTFKETYSISSLPQPVLDLISALAEDGAAL TQENYADSPVAAAAAGLFSLPTLALAMFRAVAPHYYAPDVGGNMFLYNDATYLSERLAEFAEEWVKRDNI STRAQTLLRLDNDIKSMQSFANRAYSNEMSIQKTVLRDLLGGEQNLVQQDDTESCVSAAVARVRSLAIAW ESILSRSAWQQAVGSLVDAVANKIIGDVMDLPGIGQDEAYNIANHIASVTALDDLFLPSRFATAAEGLRGC	gi|94468546|gid|1024|30 kDa salivary gland allergen (273) 115 32.6 0.075 0.324 0.574 108 gi|219806596|gid|1247|tropomyosin [Fulvia mutica] (284) 115 32.6 0.079 0.216 0.528 282 gi|8453086|gid|88|paramyosin isoform [Anisakis simpl (473) 106 30.3 0.62 0.393 0.583 84	AOL no meaningful alignments. BLASTP many over 49% ID to 100 taxa and proteins, diverse. No risks of cross-reactivity.
99	>EAA31335.3 hypothetical protein NCU05609 [Neurospora crassa OR74A] MRMQTLAARALLGGFAYERLPTVPGTSPNPNQQGLVAIGTGSNAAGCGIGETTCGIGCMPLASTCCSGK GYCDPGEYCTVRDTCCPIGKTCSPGGGCDAGKVLCGHGCMPAGAVCCPDHGYCDAGEVCTDHGTCAV GSGGGGSGGGGGSGGGGGGGSGGSGSNTCSAAGKENCDVGWCMPLGSVCCATGEGWYCDSGFY CTETGCCRNGRTCSSSGGSGSGGGGNGGGSNPAPTTTTRTQAPAVTSSSSSSSSVAAPPVQTEDSASGG GRPGSTMPVRPTLSVDDGTDGVTTPSSTPTSSTTSSSLTSTRAAQSTGLSAGDVTQPGGAGVLSVSVGLVLT AVVGMVGFMLPIL	gi|116329|gid|2594|RecName: Full=Endochitinase A; Al (280) 203 41.7 6.2e-005 0.391 0.545 110 gi|291482310|gid|1338|ragweed homologue of Art v 1 p (134) 181 38.5 0.00027 0.331 0.477 130 gi|260401081|gid|2594|chitinase [Zea mays] (278) 167 36.2 0.0027 0.367 0.523 109 gi|291482308|gid|1338|ragweed homologue of Art v 1 p (140) 158 35.0 0.0032 0.302 0.473 129 gi|285005079|gid|1338|ragweed homologue of Art v 1 p (164) 156 34.7 0.0047 0.318 0.442 129 gi|291197394|gid|1338|ragweed homologue of Art v 1 p (164) 156 34.7 0.0047 0.318 0.442 129 gi|817033923|gid|2551|Par h I precursor [Parthenium (156) 133 31.2 0.05 0.328 0.443 122 gi|291482318|gid|1338|ragweed homologue of Art v 1 p (116) 118 29.0 0.17 0.352 0.462 91	AOL, no risks of allergy. BLASTP, >39% ID for modest protein alignment lengths. But no risks of cross-reactivity.
100	>EAA34089.1 predicted protein [Neurospora crassa] MKRTMEGAEKNADKLAKRILPQRPHHLTLSLTDKYPEPAGFWYTGKSHRLQYTTFLSDCDRGILITRPSYDIC EEPASAPSAMPPKPTTLNNGEAKKKLSLKDYQRRNQSPQDPSATPRLDAKSESKGGTRVNGTVERNAPVKEN VKPDDAKAKTKPVRTEGGESEKPRITVNGDSMRGSHVQSQVELESRKRATDTERDQPKRPRTDTNHDTSR LPPKPEAPRNRLSDRSDKDIKKESLHLTTNGQARTAADRDRDVSASPKSTILVNGSKPYKESTPVSPRRKRDT ASKAPVPALLSPLHPSLLAGESDKPKSKKPAEKAPPKPLKIDSSSSRKKYEIPALLSPTLPAIVEEELARKFKSTPSK GDSRDTKTQLPDSPSIARKTKVKAEPIEEEDEEEEEQEPSLIVTLKLKKANAKRAKDLLSLPSKAVKDAMRKER TAARAEATPPPARKRPRAPDDTPSESVAAKRPKSAVGDTVIARPTGMTTPLKPSAPAMSRVPSTQSQNAT PGPPPTRHITPGMGERSSVPPLPPPSAEAAPFRERDAEYRAYGSKLKHQRDAVDAQLRDPAKLKTISSTAM TLETKRAMVLHIEMVLAYMIAFYNFNHSRMMDRRPPDFATWESLVPHFSELKKRVYSVRPFRILTTQLFAV MLEHITATFSQADQATAPALLARWQKMERLRPEVWHELYGLADFVDDKRVKMTVGPWTKIEEAVLSAM GVMKKWAEIEEVKWTPMIMKPEMAAEAKKEKGQEKEKEKDHQPQRDKERERERERERERREQRDRDR DRDRDRDREQQQQQQQQQHHRDQQRDREKERDRDRVRDMSRDRVRDRERGERDRPPPPRERDPRDP RGVGGGPGRDHPGKEMRDRDRDRLYNNDGRSSARGRGRERSRTRDRDMGIGGRDPPMRSVDLRLPLP	gi|980951561|gid|1067|RecName: Full=Conglutin beta 5 (637) 260 48.3 3.8e-006 0.272 0.700 180 gi|157384600|gid|991|7S vicilin [Carya illinoinensis (792) 241 45.5 3.2e-005 0.306 0.617 180 gi|149208403|gid|1067|conglutin beta [Lupinus angust (455) 190 38.6 0.0023 0.266 0.708 154 gi|980951565|gid|1067|RecName: Full=Conglutin beta 6 (593) 193 38.9 0.0024 0.272 0.669 151 gi|980951555|gid|1067|RecName: Full=Conglutin beta 4 (590) 192 38.8 0.0026 0.291 0.656 151 gi|980951518|gid|1067|RecName: Full=Conglutin beta 1 (611) 190 38.5 0.0034 0.266 0.708 154 gi|169950562|gid|1067|conglutin beta [Lupinus angust (611) 189 38.3 0.0037 0.266 0.708 154 gi|980951568|gid|1067|RecName: Full=Conglutin beta 7 (605) 185 37.8 0.0054 0.331 0.587 160 gi|980951548|gid|1067|RecName: Full=Conglutin beta 2 (603) 180 37.1 0.0088 0.282 0.705 149 gi|980951550|gid|1067|RecName: Full=Conglutin beta 3 (580) 179 36.9 0.0092 0.391 0.739 92	AOL, short alignments to hypothetical proteins. BLASTP two long alignments to N crassa and related fungi. Others less than 35% identity and short segments. No risks of cross-reactivity.
101	>EAA27744.1 predicted protein [Neurospora crassa] MQQHPQQLQRGQLPQQQFGGPQPQNLFMQPGNYPMQMPSPVQQAPHRGQRRVFAQTFQESDLPQQ YFGQSQSPQQPAQVFQNPQQHGHNFQEPQKENAMGTSNSPLGDLNLEDFDLDQALMVSANDDFNFDN LGDFQGQQQQQQNVIFQNAVNWPSENLSHDQTSQVAHQSRANSSVSLMTPRADDSYDLFNNNTPVQNS HNSFTITPAATPQISFNNSPGQALHNSSNTTPVTDSLNTSNTSPAGNADNSPSSFNTSLPQDFSAGWGAEV ANNNLVDLSASFASVSENHQNFVDLTGDDFDLTGHNVAFGQVLQGATYGQIDPFASYASPLENPQQQVLS VAPENLHNVHEHQPFQNPGHAQYQGSPHIPTTPFPAQQPQASTPKKSAKKRASLPKKPAAKRPTKKARKN KTPTNDEQIADSQAVDNGYQDEAAIGEYLWGAELLPQDYEYNLDAPLRNFSDSIPQRVPASENAPTPASN AISQDAPVEGYAPPAANNVTENDPLFDPTLASNAIFQGAPVEGSAPPPANNLFDNDPFVTPAPPSNGIEND PLVIFLNQENAKLNAMKQANHAQLNNVTTPEPSSPPKKRKRGNSTRTPNVSDTPAKKRKVSKKAKVKGRLS KSASSAKFGLGKGAGTGLNSPRTMYVFEDRAFYLIPANIMPAFLEFVSTPREIPVQQQSPTAQQQPLAQQQ NFAQQQPAHVQQQPVVEQQEFSQQQPFDQQQLAPVQQPDPLQQQAVIEEPAPVQEEFEPAYDIEGRLLT LLDDDEVNEQNNDDDDPYAPAPRRPVPLSEAAIAFGFTSLPIERSPSSSHNPLPVQDPAQTSSSPVSALAPSS TSSPVASNSNGTNTGNVSSYAILSASSDIVINPIPESSPRFIPDNREIIARFNLSPTGSGTERDVSHLEYFISLVHS SGLFACGHHDEIPGGFRWESWKTAEENLLALRPFFGTLTTKAWFEQWKKGENPVQLAEMEEDE	gi|335331566|gid|154|low molecular weight glutenin [Tri (369) 227 192.5 1.4e-005 0.326 0.588 187 gi|288860106|gid|160|high molecular weight glutenin sub (848) 229 189.4 2.2e-005 0.239 0.535 460 gi|736319|gid|160|glutenin [Triticum aestivum] (838) 222 183.9 4.4e-005 0.232 0.531 448 gi|288709|gid|2253|gamma 3 hordein, partial [Hordeum vu (286) 209 179.7 7.5e-005 0.438 0.650 80 gi|1708280|gid|2253|RecName: Full=Gamma-hordein-3 (289) 209 179.6 7.6e-005 0.438 0.650 80 gi|208605348|gid|150|D-type LMW glutenin subunit [Triti (346) 210 179.4 7.8e-005 0.318 0.618 173 gi|1063270|gid|152|gamma-gliadin precursor [Triticum ae (279) 208 179.0 8.2e-005 0.409 0.606 127 gi|208605344|gid|150|D-type LMW glutenin subunit [Triti (359) 209 178.4 8.9e-005 0.261 0.511 284 gi|170730|gid|154|pre-gamma-gliadin B-I (304) 207 177.7 9.6e-005 0.467 0.609 92 gi|73912496|gid|150|omega-5 gliadin [Triticum aestivum] (439) 209 177.2 0.0001 0.209 0.496 464 gi|208605346|gid|150|D-type LMW glutenin subunit [Triti (272) 205 176.8 0.00011 0.327 0.571 156 gi|170736|gid|152|gamma-gliadin (251) 199 172.4 0.00019 0.423 0.588 97 gi|508732621|gid|152|gamma-gliadin, partial [Triticum a (279) 199 171.8 0.0002 0.423 0.588 97	AOL few matches and short. BLASTP with Proteins, only 5 and first 4 are N crassa then releatives, last is poor match to Clostridium. . No risks of cross-reactivity.
102	>ESA42284.1 hypothetical protein NCU05989 [Neurospora crassa OR74A] MGFWDAVTDLIDAATPWATVEAEAPADTPAETAPASESTEETTAETKAEESAPAAEEPEEEAEEEEEEE DEDEIVDPKETLEEECRNSKECAPAKHHYDECAARVTGAGADNKEDCVEEFFHLVHCATQCAAPKLWNTL K	gi|4887129|gid|242|putative allergen protein [Prunus ar (168) 134 140.6 0.011 0.388 0.551 98 gi|1480457|gid|594|latex allergen (151) 116 125.2 0.081 0.382 0.528 89 gi|21585695|gid|660|allergenic-related protein Pt2L4 [M (177) 116 124.3 0.091 0.426 0.632 68 gi|332713934|gid|660|Manioc Glu [Manihot esculenta] (177) 112 120.7 0.14 0.421 0.566 76 gi|18536|gid|2083|Beta-conglycinin, alpha subunit-like (605) 109 111.1 0.49 0.297 0.568 74 gi|59894749|gid|848|60S acidic ribosomal P1 phosphoprot (107) 96 109.3 0.62 0.379 0.569 58 gi|371537645|gid|1983|60S acidic ribosomal phosphoprote (107) 95 108.4 0.7 0.351 0.558 77	AOL, no meaningful matches. BLASTP >54% ID over 100 or more taxa and protein. Diverse. No risks of cross-reactivity

	F	G	H
103	>EAA29618.1 hypothetical protein [Neurospora crassa] MSNSMRDLIDGEAELDDEEDDESFDEEAGDRPRRRPNIDDSSEEEEDDEDEEEARKIREGFIVDEDEEDEA EDSDARERRRRKKRRREREEEEQLDEEDLDLIGEAIPEWERKPQPQQTKFKRLKRGHRDDHRPTERRGLAEI FSDEDEEHDDRGYGRPSGRAQADEFDDFIEDDYPEDDEERRHREEDEEVARPKDRGLNIDTTGLDKDALED MDAIFGNGEDYEWALQLEEEQEHAERTKEDIELQDVFEPSQLKEKLLTDEDNRIRFNDEPERFQLDRKAFKN LQMTSDQFKEEARWISNLMLPSKNLSSELHGPFNKAVGKVLEFFVIDGVEVPYVFQHRRDYLIHAKKMRNP NRRDDPDAPEYTVDAEKLLTQDDLWKVLDLDIRFRSFLEKRNALEQTYDKLKEKTRDDILEEMIRQAQSIEEL QDLQDYLNFQYSAELKDLAANDNSAQREIKRAGGRTAQFERIRRSNAYKFVQALGITPDRLAKNILRESSKV TSEDDSRLPDDLADTLVDADFPTGELVINAARQMLAEEMFASPRMRKHFRKNFYGMGIVSCRRTDKGLRK IDEANPYYEVKYLKNMSIADLAVRPELFLKMMKAEEEGLIEIKVSLENDREFRQQLFSDFASENFSELADKWN AERQKVIDLAFDKLVKVIVKGVKDSLRTACQDELLKTCRELYFKRLDQAPYKPKGMVIGTTPRVLTLSNGMG DPNREPVSWVSMDEDGRILEHGTFTNLARDESQREALAELVRRRQPDVIGISGFSADTHRLIKDVEGLVSEK GLVGPEYDDPETNEYRSDLLEVIVINDEVARLYKDSPRAVADHPSLNPMTRYCIALARYMQNPMKEYAALG KDVTSLQIHPYQQYLPQAKLLKHLETAMVDMVNLVGVDINVAMQDANTAHLLPYVAGLGPRKAQLLIKGI NKNGGVVTSRDELVGDPERHKLPVLGPRVWNNCASFLFIEYEPTNPESDPLDNTRIHPEDYDLARKVAADA LGLDEEDVKAETDENGAGAIVRKLFKDDEQDKVNELILEEYAEQLEREYQQRKRATLETIRAELQVPYEELRK KFESLTVDQVFTMLTGENRDSLCEGMIVAANVRVVKDDFAIVKLDCGIEGRIESHDVSYRHSIKDVLHVGQV VQAKLIDLNRKEFVSKLSMRDEEMRRPFRRHFDHGRDQWDYRKEDEDREELREKDKSTGRAQRVVNHPLF KPFNSTQAEEYLGSQPSGEVVIRPSSKGNDHLAVTWKVADGVFQHVDVLELQKENEFAVGRVLRVGKYTY QDLDELIVDHVKAMAKKVDELMQCDKFQKGSRNETEKWLTTYMDANPNRSTYAFCIDTKHPGYFFLCFKA	gi|732706|gid|573|Glycinin-like protein product [Glycin (562) 168 162.5 0.00068 0.388 0.635 85 gi|806556|gid|573|A5A4B3 subunit [Glycine soja] (563) 166 160.6 0.00086 0.349 0.616 86 gi|18641|gid|573|glycinin [Glycine max] (562) 163 157.8 0.0012 0.395 0.651 86 gi|4249568|gid|573|glycinin [Glycine max] (563) 163 157.8 0.0012 0.395 0.651 86 gi|980951568|gid|1067|RecName: Full=Conglutin beta 7; A (605) 160 154.5 0.0019 0.257 0.521 280	AOL no significant alignemtns. BLASTP 100 alignments of > 60% id, diverse. No significant risks of allergic cross-reactivity
104	>EAA35357.1 hypothetical protein [Neurospora crassa] MVKNVKQTKKFEKKHLKGVLERRKVVQKIKQKEQIKQKKQAKKSQDDAFIKGPDGGKKPVHAKKNLGTAAS GEMTVDDFFQGGFEILDKKTKDASGKLGKRKRDQEESDAEEEPSADEGSDVDFSDDDISHDEVSDDDEEDD EVVDGAAPTGMTKEAMASLAEKDPEFYKFLKENDPEALEFDENADFSEIDELSGSEGEGEEEPKKKKQKKDT KAADEENGFELTQKMIAKWKAQIEETKSLRAARQVVIAFRCAAHLNEDDDEKPQRYTINNPDAFNDILVLA LKHIPEVLAHHVPVKESASGKAYVNTDTKKFKILSQLVKNYAASIIHLLGTLSDEPTLKLTISALEPLLPYLLSFRKL LKVLIKTVVAFWSQSASTEATRITAFLVARRLMVISDKGVRETVLKAVYQGLVQGCRLTNVNTVAGINIMKN SAAELWGLDQTLGYTTAFGFIRQLAIHLRNSIVNNKNNAFRNVYNWQYVHSLDFWSCVLSEHCSPLKEAEA GKESQLKLLIYPLVQVTLGAMRLIPTALYFPLRFQLIRSLLRLSRATDTYIPLASALLEVLNSAEMKKPPKSSTLKF LDFATAYKAPKSYLRTRVYQDGLGEQVIELLSEYFVLWSRNIAFPEFSLPVVVALKRWLKDSRKKSTGNNNGK IGTQLALLVQKIESNAKFIEDKRNRVDFAPNDRTQVEAFLRDFEWEKTPLGAFVVSQRKLRAEKRKMMEEA	gi|18536|gid|2083|Beta-conglycinin, alpha subunit-like (605) 156 147.4 0.0047 0.359 0.769 78 gi|9967357|gid|2083|alpha subunit of beta conglycinin, (543) 155 147.1 0.0049 0.388 0.700 80 gi|94468546|gid|1024|30 kDa salivary gland allergen var (273) 144 141.2 0.01 0.421 0.605 76 gi|9967361|gid|2084|alpha' subunit of beta-conglycinin, (559) 147 139.7 0.013 0.320 0.747 75 gi|169929|gid|2084|beta-conglycinin storage protein [Gl (639) 147 138.9 0.014 0.320 0.747 75 gi|2114497|gid|1024|30 kDa salivary gland allergen Aed (253) 140 138.0 0.016 0.255 0.571 212	66 sequences of >35% identity predictions by AOL, mostly from Triticum and real alignments are <40%% identity. Many BLASTP alignments >68% ID 100 taxa proteins, many are >40% identity over the length of the diveress proteins. No likely allergic cross-reactivity.
105	>ESA43968.1 hypothetical protein NCU02736 [Neurospora crassa OR74A] MAKLFVGGLSWNTDDNMLRAKFEEFGAVEEAVVVKDRDTGRSRGFGFVRYGNDADAENAIANMDGQE FDGRRVRVDKASDRAAGGGGGGFRQGGGGGGGYGGRGGYQGGGGYQGGGGYQGGGGYQGGGYQG GGGGYGGQQYGGQGGYQQSSYGQRSYGQNPQQGYNGGQQQGYAAPYGGYPADPSQQGQQYPPQG QY	gi|291482310|gid|1338|ragweed homologue of Art v 1 prec (134) 227 217.2 6.1e-007 0.583 0.750 60 gi|71084277|gid|160|HMW glutenin x-type subunit Bx7 pre (795) 207 188.9 2.3e-005 0.387 0.486 142 gi|22090|gid|160|HMW glutenin subunit 1By9 [Triticum ae (705) 200 183.5 4.6e-005 0.426 0.539 115 gi|291482308|gid|1338|ragweed homologue of Art v 1 prec (140) 188 182.9 5e-005 0.471 0.586 70 gi|288860106|gid|160|high molecular weight glutenin sub (848) 195 178.0 9.3e-005 0.359 0.545 156	20 AOL alignments of >35% identity, diverse proteins, Triticum, Ambrosia, Sinabis, Lates, Parthenium. No meaningful alignments (often short) in AOL. BLASTP >69% ID of short segments of sequence across 100 taxa and proteins of <40% length. No likely cross-reactivity.
106	>EAA32041.3 AP-1 complex subunit gamma-1 [Neurospora crassa OR74A] MSSLKQFIRNVRAAKTIADERAVIQKESAAIRASFREESHDHSVRRNNVAKLLYLFTLGERTHFGQIECLKLLA SPRFADKRLGHLATSLLLDENQEVLTLVTNSLQNDLNHNSNQYVVGLALCTLGNIASVEMSRDLFPQIETLISTT NPYIRRKAALCAMRICKKVPDLQEHFVEKAAQLLSDRNHGVLLCGLTLVTSLCEADEAEGGEEGIIEKFRQFV PVLVRTLKGLASSGYAPEHDVTGITDPFLQVKILRLLRVLARGDAQTTEQINDILAQVATNTDATKNVGNSIL YEAVLTILDIEADAGLRVLGVNILGKFLANKDNNIRYVALNTLVKVVAIDTNAVQRHRNTILECLRDPDISIRR RALDLSFTLINESNVRVLIRELLAFLEVADNEFKPNMTSQIGIAADRYAPNKRWHVDTMLRVLTLAGNYVKE PILSSFIRLIATTPELQTYAVQKLYTNLKKDITQESLTQAGAWCIGEYGDALLRGGQYEEEELVQEVKEHELIDL FTTILNSNYATQVTTEYIITALIKLTTRLQDATQIERVRRLLQYHQTSLDVEVQQRAVEYGNLFSFDQIRRGVLE KMPPPQIKESSRVLGEAAKKTTKAAGKKTNKAAKPKEEDLLFDLMGDTNLPSPSVPNGGTNNADLLADILG GTTSPPTSASPAPAQSNVASIMDLFSQGPTSTPSPAPAPAAAPSAVLDLFNTTPAAASAPAPQAAPKPAAA AGHACYDNNGLNVTIQIQRNAEGMIQATARFRNSFPGGPLSAVGLQAAVPKSQKLQLLNISSTDIAPGAEA	gi|666431137|gid|321|allergen Asp F7 [Aspergillus fumig (270) 124 129.2 0.049 0.280 0.585 118 gi|83300389|gid|321|Allergen Asp f 7 precursor (270) 123 128.2 0.055 0.280 0.585 118 gi|455288|gid|129|isoform 9 (339) 107 111.2 0.49 0.521 0.729 48 gi|78128018|gid|509|group 15 allergen protein [Dermatop (558) 109 110.6 0.53 0.230 0.598 122 MRLHTITNLSTTLFTIFTILTFNHVLPVQATPQQQPSKASIFHVRHVDNLSLNTHHPKPTPPAELLPLQQ HAKEPITISTITIIITATATVATPSNTPASSSVPSSFLNPALFTSALLNSTNFYRAQHNASAVIYNDTLS SFASHYLDKLGLPFSSSSSSSSLVSQSKSKSKSKSFSSTTTTTKCELTHSQGPYGENLALGCSDVQSCVE MWGNERARYDFGRAKFGEDTGHFTQLVWKDTTDVGCAARWCQGWNAGRGGWYLVCEYWPRGNVVGEFGSM VQRRVEGNGGGSRVRAEWRVMVGVVVVGGWMVFG	Two alignments over 35% ID over 80 by AOL. BLASTP has many alignments of >80% ID over full length for 100 taxa and proteins. Diverse. Not likely cross-reactive.
107	>EAA30878.1 hypothetical protein [Neurospora crassa] MRLHTITNLSTTLFTIFTILTFNHVLPVQATPQQQPSKASIFHVRHVDNLSLNTHHPKPTPPAELLPLQQHAKE PITISTITIIITATATVATPSNTPASSSVPSSFLNPALFTSALLNSTNFYRAQHNASAVIYNDTLSSFASHYLDKLG LPFSSSSSSSSLVSQSKSKSKSKSFSSTTTTTKCELTHSQGPYGENLALGCSDVQSCVEMWGNERARYDFGRA KFGEDTGHFTQLVWKDTTDVGCAARWCQGWNAGRGGWYLVCEYWPRGNVVGEFGSMVQRRVEGN GGGSRVRAEWRVMVGVVVVGGWMVFG	gi|171464770|gid|467|pathogen-related protein 1 [Cucumi (151) 264 319.5 1.2e-012 0.385 0.688 96 gi|1343071177|gid|2724|Pathogenesis-related protein PR- (163) 240 290.6 4.9e-011 0.408 0.622 98 gi|148887203|gid|789|art v 2 allergen [Artemisia vulgar (162) 239 289.5 5.7e-011 0.398 0.622 98 gi|1343071174|gid|2724|Pathogenesis-related protein PR- (163) 239 289.5 5.8e-011 0.398 0.622 98 gi|1343071183|gid|2724|Pathogenesis-related protein PR- (163) 239 289.5 5.8e-011 0.398 0.622 98 gi|1343071179|gid|2724|Pathogenesis-related protein PR- (163) 239 289.5 5.8e-011 0.398 0.622 98 gi|1343071181|gid|2724|Pathogenesis-related protein PR- (163) 237 287.1 7.8e-011 0.396 0.646 96 gi|1859630616|gid|3039|RecName: Full=Venom allergen 5; (202) 183 221.9 3.3e-007 0.387 0.680 75 gi|595790543|gid|3013|basic form of pathogenesis-relate (161) 181 221.0 3.8e-007 0.379 0.598 87 gi|549185|gid|121|Venom allergen 5.02 (Antigen 5-2) (Ag (202) 181 219.6 4.5e-007 0.359 0.609 92 gi|160780|gid|276|allergen 5 (209) 181 219.4 4.6e-007 0.324 0.627 102 gi|549184|gid|121|Venom allergen 5.01 (Antigen 5-1) (Ag (202) 180 218.4 5.2e-007 0.363 0.626 91 gi|6136165|gid|121|Venom allergen 5 (Antigen 5) (Ag5) ((202) 179 217.2 6.1e-007 0.358 0.679 81 gi|549188|gid|276|Venom allergen 5 (Antigen 5) (Ag5) (A (205) 179 217.1 6.2e-007 0.324 0.627 102	26 AOL alignments of >35% ID over 80 to diverse species, venoms, weed PR 10 proteins, but not over 40% identity. BLASTP 100 proteins with >42% ID and mostly >50% of length of diverse species. No risk of cross-reactivity as the diversity is so great.
108	>EAA27670.3 hypothetical protein NCU01700 [Neurospora crassa OR74A] MASHDEIWDDSGLVNSWNEALAEYKKYHSIHAEGAALPEGVADELEDQSAKPSGATNVHQEGEDGVAP AVEVKTTPINTIQHGLETQQSAAAEPTAATAASLPGPGPPLMLGSVQDEELKKLLMSWYYAGYYTGLYEGK QKALHEQAQQ	gi|1079717942|gid|3017|PREDICTED: collagen alpha-2(I) c (1355) 103 118.0 0.2 0.346 0.519 81 gi|929244458|gid|3080|PREDICTED: collagen alpha-2(I) ch (1356) 94 107.5 0.78 0.338 0.558 77	Three minor AOL alignments to grass proteins >35% ID. BLASTP has 100 alignments >43% ID. Very diverse with >90% coverage. No risk of cross-reactivity.

	F	G	H
109	>ESA42891.1 profilin [Neurospora crassa OR74A] MSWQAYVDSSLVGTGHIDKAAIISAAGDSTWAATPGFTLSPDEMKFISAVLGDNGKGSNVDKVFAEGLHV AGQRYVAFNIEGRHVYGRQGKTGVIIVKTTQAILVAHYGENAVAGNSTQTVEALADYLVKAGY	gi|625293889|gid|2267|profilin, partial [Prosopis julif (133) 265 321.2 9.9e-013 0.386 0.686 140 gi|701225196|gid|2001|profilin, partial [Vachellia farn (133) 257 311.9 3.2e-012 0.379 0.671 140 gi|589912885|gid|1577|Sal k 4.03 allergen [Salsola kali (133) 251 304.9 7.9e-012 0.367 0.683 139 gi|34851176|gid|600|profilin-like protein [Humulus scan (131) 250 303.8 9.1e-012 0.362 0.659 138 gi|227937304|gid|1275|Ama r 2 pollen allergen [Amaranth (133) 250 303.8 9.2e-012 0.364 0.664 140 gi|83317152|gid|632|profilin [Litchi chinensis] (131) 247 300.4 1.4e-011 0.372 0.657 137 gi|60418866|gid|656|profilin 2 [Malus x domestica] (131) 247 300.4 1.4e-011 0.370 0.667 138 gi|17224229|gid|127|profilin [Lycopersicon esculentum] (131) 247 300.4 1.4e-011 0.336 0.686 137 gi|27528312|gid|238|profilin [Prunus persica] (131) 247 300.4 1.4e-011 0.377 0.652 138 gi|4761586|gid|656|profilin [Malus x domestica] (131) 247 300.4 1.4e-011 0.362 0.667 138 gi|58700651|gid|459|profilin [Crocus sativus] (131) 247 300.4 1.4e-011 0.362 0.630 138 gi|60418862|gid|656|profilin 2 [Malus x domestica] (131) 246 299.2 1.7e-011 0.362 0.667 138 gi|75306610|gid|78|RecName: Full=Profilin; AltName: Ful (131) 246 299.2 1.7e-011 0.360 0.669 139 gi|34851182|gid|40|profilin-like protein [Ambrosia arte (133) 246 299.1 1.7e-011 0.360 0.640 139	47 hits in AOL with calculated ID > 41% ID, but those IDs are low for cross-reactive profilins. BLASTP identified 100 ID matches of >60% Identity across diverse taxa and proteins. No significant risks of cross-reactivity.
110	>ESA42697.1 merozoite capping protein-1 [Neurospora crassa OR74A] MPVELRKRKAPPPPPAPVKKRATKATKAAAKAKEQVEDVASKAAETASKAAEVATETATAAAQTAAEAV ANGAAKVATALAGNPKVGDLIDLDNFGGEVETNDGTKTSLKKLVEESKAGVVLFTYPKASTPGCTRQVCLF RDSYTALSSATGLSIYGLSSDSPKANTTFFKEKQKLPYPLLCDPSYALIGAIGLKKAPKGTTRGVFVVDKQGKVL AAEAGGPEATVKVVVERVVSEMGEEGKTEKKKEEEEAEEKGEKKEGEEEEKAEKDEAKEEGEEKKEDKAETK EREEKAEAKESEEKKDEKDETEAAGKKDEKKNEKDETEAAEKKDEKKDEKDETEAEEKKEEQDKDSETKDD DEKKAEKKDAATEEEKKKEKEDTTNGEKKDEKKKTEEKKSDDDKAEDKKEDKEAEEEKKDEKKDEKKDEKKD EKKDEKKDEKKDEKKDEKKDEKKDEKKDEKKDEKKDEKKDEKKDEKTEEKEEDTEMKD	gi|157384600|gid|991|7S vicilin [Carya illinoinensis] (792) 226 149.6 0.0035 0.146 0.675 246 gi|18536|gid|2083|Beta-conglycinin, alpha subunit-like (605) 211 142.0 0.0094 0.237 0.644 160 gi|9967357|gid|2083|alpha subunit of beta conglycinin, (543) 209 141.2 0.01 0.270 0.690 126 gi|7339551|gid|2264|convicilin [Pisum sativum] (613) 209 140.8 0.011 0.251 0.676 179	57 matches to AOL between 35% and 42% ID between 57 proteins of diverse taxa. BLASTP > 58% but mostly to segments of at least 100 AA with identity over 100 diverse taxa and proteins. Little chance of possible cross reactivity
111	>EAA34907.3 C2H2 type zinc finger domain-containing protein [Neurospora crassa OR74A] MSEAAPVHRCPVCYKTYKRREHLQRHRASHTSERPHRCILCSASFQRTDVLKRHIQTCDGLPHGSSGRRRA CDRCVRQKKACNSAQPCQNCSKRAVQCLYSSVGSSSTSQDGEAGSTSAANSVESFSNTPSTQQQQQQQQQ QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQPQQQQQQQQQTQQYQHQQFLHQQPQQLHQQQQ QQQQEQQQQQQQRQQQRQQQQQQQHQQQHQQQHQQQHQQQHQQQHQQQHQQQHQPIYLQQQQ HQYQHQQYHHHQQQQQQQQHPQRPPHHQFQPQQHQQQTYQQHPHQQQHNQQQRHHHHNVLHAQQ TQPLTQIPQIAPVPVPQIPRNHQVPVPQILQQSHQSHQPHSAHQPHHVPFHHPGVAHFDDLDNLLQDAAQ QFPMLGHQDTHIPDWIEMELPMGTHAMDTPEGNTTSRSTPSSETHRGYSFDFLYDFTSRTGLVDSFECGT HAQRRAVVDAFYASYAEQQKHHQQLQQIQQQQQQQQQHLKAQQQIQGQLEFHPMFPQLQHHMGQPS LSPASSSAVSISATSNDYSYMPWTPWSSWLSNPIIIKLQEIVVSIMNVVRHKPSNSTLGTLTWTPDKEQECLC FFSPQRFAKFLELFWSCWHPNVNFMHRPSFDPTSAKPTLLAAMALTGASVSPDEQDTKDAKVWFNCVEE MVFTDDDFCSDTEPGSPADDDANPASALHCKRKLQALAQASYIVCLYQNWEGSDASKRRIRRHRFNTVVSV ARDIGIPMAKHLEYGRLLRHEFDWHEYVVREELIRTFLWVFLLDTAFVIFNNLPHRMVIKEMRMHMASPEA VFQAPTAEKCLEEIYQWMPSSSPICNTLLRDVLENVIGTTLDADTLQRLARLGPLNLFVVVSVFHYMIFQHQ NLFGVEGQLVPIRNGLDNWITIWELWCDHWSSTPPHCMAASDNLTPANMWKRIGFIRCSAEYWLLGSLL TDRIARKTSGGVRENQGKGSSPDSYPDELTGSGKGKSNDPILIKYDQTSMRQVNELISDFKKIQLEEIE	gi|73912496|gid|150|omega-5 gliadin [Triticum aestivum] (439) 629 414.9 5.9e-018 0.382 0.563 421 gi|208605346|gid|150|D-type LMW glutenin subunit [Triti (272) 617 409.3 1.2e-017 0.465 0.612 245 gi|208605348|gid|150|D-type LMW glutenin subunit [Triti (346) 581 385.8 2.5e-016 0.417 0.619 307 gi|75317968|gid|154|LMM glutenin 3 (373) 513 342.8 6.1e-014 0.410 0.610 249 gi|508732623|gid|150|omega-gliadin, partial [Triticum a (366) 490 328.5 3.9e-013 0.423 0.536 267 gi|21743|gid|160|high molecular weight glutenin subunit (830) 480 318.9 1.3e-012 0.303 0.523 505 gi|288860106|gid|160|high molecular weight glutenin sub (848) 478 317.5 1.6e-012 0.292 0.489 448 gi|508732625|gid|160|high molecular weight glutenin sub (794) 476 316.6 1.8e-012 0.306 0.516 504 gi|170743|gid|160|HMW glutenin subunit Ax2* [Triticum a (815) 476 316.5 1.8e-012 0.306 0.516 504 gi|736319|gid|160|glutenin [Triticum aestivum] (838) 469 312.0 3.2e-012 0.313 0.477 419 gi|208605344|gid|150|D-type LMW glutenin subunit [Triti (359) 451 304.1 8.8e-012 0.382 0.531 309 gi|170710|gid|151|alpha-type gliadin precursor protein (318) 438 296.5 2.3e-011 0.370 0.529 276 gi|170718|gid|151|alpha/beta-gliadin precursor (313) 433 293.4 3.5e-011 0.371 0.543 280 gi|21765|gid|151|Gliadin-like protein product [Triticum (313) 433 293.4 3.5e-011 0.371 0.539 280	65 AOL matches of 35% to 65% ID for partial, mostly Triticum sequences. BLASTP 100 diverse matches of > 40% identity to diverse fungal proteins with >42% length. These represent low risk of cross-reactivity
112	>EAA28220.1 hypothetical protein [Neurospora crassa] MGKSQSKLERDKLEELEKATHFDKKELQQWYKGFLKDCPSGMLTKAEFQKIYAQFFPFGDPSSFADYVFNVF DTDKSGTIDFKEFICALSVTSRGKMEDKLDWAFQLYDIDGDGKITYDEMLKIVEAIYKMVGSMVKLPEDEDT PEKRVSKIFRMMDKDENGSLDMKEFKEGSQRDETIVSALSLYDGLV	gi|6065738|gid|91|troponin-like protein [Anisakis simpl (161) 139 140.8 0.011 0.265 0.575 113 gi|219815476|gid|1544|troponin C [Tyrophagus putrescent (153) 137 139.2 0.013 0.261 0.574 176 gi|82704036|gid|987|allergen Bla g 6.0301 [Blattella ge (154) 128 131.3 0.037 0.252 0.583 151 gi|6901654|gid|698|calcium-binding protein [Olea europa (171) 127 130.1 0.043 0.260 0.606 104 gi|82704034|gid|987|allergen Bla g 6.0201 [Blattella ge (151) 125 128.7 0.052 0.306 0.577 111 gi|327342663|gid|1855|parvalbumin [Evynnis japonica] (109) 123 127.9 0.057 0.381 0.583 84 gi|1503206382|gid|3025|parvalbumin beta [Pangasianodon (109) 119 124.4 0.09 0.333 0.593 81 gi|17977825|gid|468|parvalbumin [Cyprinus carpio] (109) 117 122.6 0.11 0.369 0.571 84 gi|17977827|gid|468|parvalbumin [Cyprinus carpio] (109) 116 121.8 0.13 0.342 0.570 79 gi|20797085|gid|102|parvalbumin beta protein [Rana sp. (109) 115 120.9 0.14 0.345 0.575 87	16 Matches above 35% ID to AOL, all are low matches. BLASTP 100 matches of >89% identity, diverse taxa and proteins very good homology. Low risk of cross-reactivity
113	>EAA33970.2 hypothetical protein NCU09482 [Neurospora crassa OR74A] MTTTSRDAYTPLESLFLLRGIAKHGLDQQAFHRIADLLQQNHLIKLAPSYDAARLRPEPLQELFLHLLWDELK QEHDTPGPKPDGDLSPNSKRRRLQPPPLPTLREAHQYVPKIESLYRKLEQTYVNQTLQEIDQYERHYDRLQTE VRVLEQAVARDEEQERRQKIPDGLPAQDGPVAHKQSPALGSVPSPVAVQGPGARLPNGASHGPSPVASPR IASPRLPPPQSQSPRTPSTPQLPIPTPPPPPPPPPPPPPPPPPPPIPPQLPPQVSAHIPPRPEVARHASVPSPTTC PPVRSSPAPLPPTTLPPTLPPTTTAALQPQLVSSPRLGHHNIPRGPITSGPGSPRPMTAGGGIPHVLQPPASFS QAPPQPPQPPKPSTPTGGLPRLDSIAGPSRQSPVLQTAHHPATTLPQPQPLIPGQAQGGQLKWEPPYQPQL AGHRPILGPGQQHPHYSPVSQPVQPLHSPRLPSHPPPQQVQQHAVVTRPPQPPPMKPQVLIPPQTGQHYS PPLQPAPNRAMSDSPGPSPVRQPVASNAATGIPRANYQQHPSPYPPYHLPQHLQQGAAVSSPPQSPSAIP PRLTHGLAAPQQQRSPPPLQPQQQQSPQHQPQALQAPPPFSQPVTTSMAPSPSLAPIQSEVQRAYPSPYPP QLPQPSHPPQAHPPQAPHPPQVPHQHPPQAHQVPQVPQASQAPQPHVSRAPQVHPTPHLPHPPQAPLP QVTQAQSPRIPPITHAPQPPVTHAPHVAHPPQQQQQPQQQQQPQQPQQPQQPQPPISQHRPRSQSAAT TYSGPRFSPITSVTTTLVPPARLGLGTGTKWVSAASASTPKLPDVRSGGDDIRPPAFEPLSPVQQPAVLPTAR QDAARPSPARQPTNETSRARGSIPLVGPQPTPASQARQQAAQKVSKPLDKPTASEQPSTVKEIAKESAKEPE PATSVKNEVDTPRATMDTGDTTADESVAGKRQAARQAKRKRDELSPTPAATPAEATPNGNATPANEKSQ QETLATASAAPPDAHRVLWSRGFHKVSASAMEQIVRHRSANMFAAPIREKDAPGYHKVILQPQDLKSIRA AIAHGNRSATQAAAALPGGDPGHMLVWLPQMEELVPPRGIINTAQLDRELAHMFSNAIMYNPDRWHG PGSSFLAEREERTDDNNQPGGHGHGHPGDVLGYKVDEFGVVKDARAMFSEADSLLADLRVAEDGRVKS MMEDGTLQKMPSVNGSQNHSRQASKGGEKAEEEQKDKDKPSGDGDKEKDKDGDVSMIGDKEEEAQAD	gi|508732623|gid|150|omega-gliadin, partial [Triticum a (366) 524 350.7 2.2e-014 0.380 0.538 405 gi|73912496|gid|150|omega-5 gliadin [Triticum aestivum] (439) 516 345.0 4.7e-014 0.326 0.519 405 gi|208605344|gid|150|D-type LMW glutenin subunit [Triti (359) 509 341.3 7.5e-014 0.350 0.484 411 gi|208605348|gid|150|D-type LMW glutenin subunit [Triti (346) 479 322.4 8.4e-013 0.318 0.517 358 gi|288860106|gid|160|high molecular weight glutenin sub (848) 470 313.5 2.6e-012 0.266 0.473 816 gi|21779|gid|160|HMW glutenin-like protein product [Tri (660) 402 271.4 5.9e-010 0.276 0.453 554 gi|71084277|gid|160|HMW glutenin x-type subunit Bx7 pre (795) 401 270.1 6.9e-010 0.255 0.439 711 gi|21743|gid|160|high molecular weight glutenin subunit (830) 401 269.9 7e-010 0.244 0.449 860 gi|208605346|gid|150|D-type LMW glutenin subunit [Triti (272) 394 269.4 7.5e-010 0.360 0.551 267	62 matches >35% to 48% to segments of AOL, mostly Triticum with low overall identities <35% ID. BLASTP over 100 taxa and proteins with matches over 40% ID and segments of > 200 AA to diverse species mostly fungi. Not likely to be a risk of allergic cross-reactivity.

	F	G	H
114	>EAA33676.2 mucin [Neurospora crassa OR74A] MYLARTRCQNPLPSSSPFSSQHQSPADRWTTQSLVSGWRRYGNLIKNSNPSSAGGLQTPPYDNDMGTTY QVPKLTPSYEQHRSYTHPTLPALSSCSAVSQRPPRDLAHMFNNSESLCSYSDTQSLYLPNPQQWSTAASSTS SNSGSAQRGYAQQHQQYQQRQHQSRQQSPPRQQRQQQYVSQKQQQQYQQQHQSRKPSSQRPSRPPSP SPIRREQEISKRDAAMALHSLQVPACISPKGGSLSDLVADLTALFWFETSKVLERAATYDALRPGAAPVRRIE GPAIACPNFKKWVHNLLSTTQVTQNVILLSLLYIHRLKVLNPKMHGLPGSEYRLLTVALMLANKFLDDNTYT NKTWSEVSQLSVNEIHVMEVEFLGNMRYSLLVTEKQWEEWLVKLARFREYLERARQVSSPADLLAPSPNAL PVSALPSPTTGQHFPSPLQPTLAGQSPSASFYAKQSSGQGWPTHAAGQTPIWNPASTPLTRKRSMPEFDLL EPPAKRRTPLKPYASSETLYPTVTVPEALRNSREFACAPLPSTSEMALKQARLSVSNLTLNNAQSSTANTLPG EVYSRVSYAPESMISLPPILLPAPGMAATYVNSTSAAAPMPSILPTSGSGVSPSTVVAASTTAHPTSQYALSA NRLQSQHSLTSSGAYLGSSPIGEPLIHTPMSASSPSNIYLQQRTSPYRPVRHAETLLHPPPSAFLQQYHLPNPI PPQLHYQPLGRRNEVRTGIVPEFAMPNSGLTMAGAGRYQEPIPAFRQSFSLPLRDIPPATSAYSQQPRR	gi|283476402|gid|1617|alpha/beta gliadin precursor [Tri (281) 186 150.0 0.0034 0.287 0.561 164 gi|75317968|gid|154|LMM glutenin 3 (373) 187 149.3 0.0037 0.269 0.596 193 gi|73912496|gid|150|omega-5 gliadin [Triticum aestivum] (439) 180 143.5 0.0077 0.226 0.521 261 gi|21783|gid|154|LMW glutenin-like protein product [Tri (356) 174 140.4 0.012 0.301 0.589 146 gi|170718|gid|151|alpha/beta-gliadin precursor (313) 172 139.7 0.013 0.252 0.472 254 gi|21765|gid|151|Gliadin-like protein product [Triticum (313) 171 139.0 0.014 0.255 0.475 259 gi|208605348|gid|150|D-type LMW glutenin subunit [Triti (346) 166 135.0 0.023 0.224 0.537 268 gi|170710|gid|151|alpha-type gliadin precursor protein (318) 164 134.0 0.026 0.245 0.498 257 gi|170734|gid|154|gamma gliadin B-III (244) 160 132.6 0.031 0.302 0.516 192 gi|62550933|gid|154|putative LMW-glutenin subunit [Trit (326) 160 131.1 0.038 0.286 0.524 210 gi|335331566|gid|154|low molecular weight glutenin [Tri (369) 160 130.5 0.041 0.248 0.492 242 gi|170724|gid|151|pre-alpha-/beta-gliadin A-IV (297) 156 128.8 0.051 0.229 0.514 245 gi|208605344|gid|150|D-type LMW glutenin subunit [Triti (359) 156 127.8 0.058 0.230 0.490 243 gi|21930|gid|154|LMW glutenin [Triticum turgidum subsp. (285) 154 127.6 0.06 0.277 0.497 195 gi|170736|gid|152|gamma-gliadin (251) 152 126.9 0.066 0.285 0.504 123 gi|508732621|gid|152|gamma-gliadin, partial [Triticum a (279) 152 126.3 0.07 0.285 0.504 123 gi|21757|gid|151|Gliadin-like protein product [Triticum (296) 151 125.3 0.08 0.305 0.534 131 gi|886967|gid|154|low molecular weight glutenin [Tritic (276) 150 125.0 0.083 0.270 0.525 141 gi|886963|gid|154|low molecular weight glutenin [Tritic (229) 148 124.6 0.088 0.251 0.559 195 gi|62484809|gid|152|putative gamma-gliadin [Triticum ae (285) 149 124.1 0.093 0.400 0.631 65 gi|170708|gid|152|gamma-gliadin B precursor (291) 149 124.0 0.095 0.340 0.580 100	38 AOL matches to Triticum over 35% ID to 43%. BLASTP, Over 100 matches to diverse proteins and species over 43% ID and 60% coverage, but none appear to have risks of possible cross-reactivity
115	>EAA34751.2 hypothetical protein NCU02095 [Neurospora crassa OR74A] MGAGSSKVARKLPRNATAASVAAASRSGAAAAPRAPPPRVNGGQEAPSQSQMDSASSNTYEEAAAAA ATPTQDQLHHGHQHHHHHQQPPTRTSSSSSSTTTTSSFPSPSTGSGSPLDAIGDPAFAARLRQLSATVQPN PIHSPSSTVSVHPQPQLQSQHLPQSSSSSSSSSSSQFLQSHQFPPSRRLLPPSQSQSQSQSQSQPHAQQQQA PQKENIPTLLSPSFPALQSNATLTALDARKVLERRYEEEMDKFGRNDKSFQGREFLSVQMVKDVFELRKRGA SEEEIERRLGLAKGVVRGVEGGGVVKAVTA	The best scores are: opt z-sc E(2233) %_id %_sim alen gi|208605348|gid|150|D-type LMW glutenin subunit [Triti (346) 192 173.4 0.00017 0.240 0.569 204 gi|21783|gid|154|LMW glutenin-like protein product [Tri (356) 191 172.4 0.00019 0.297 0.594 155 gi|73912496|gid|150|omega-5 gliadin [Triticum aestivum] (439) 183 164.5 0.00053 0.265 0.529 223 gi|75317968|gid|154|LMM glutenin 3 (373) 170 154.8 0.0018 0.267 0.519 206 gi|335331566|gid|154|low molecular weight glutenin [Tri (369) 167 152.5 0.0025 0.263 0.543 186 gi|170708|gid|152|gamma-gliadin B precursor (291) 160 148.2 0.0042 0.322 0.548 115	26 entries in AOL >35% ID to Triticum gluten proteins. Over 100 diverse proteins and species with 33% to >60% identity to ver most of 100 proteins taxa and many over 35% id 60% ID over at least 25% of the length of protein lengths to diverse species. No risk of cross-reactivity.
116	>EAA33725.1 predicted protein [Neurospora crassa] MKFQASLILALQVLSVAALPHPKREAAEAAASSTAVASATASGAASATATTAAQATATAGAGTGDKKGEE EDENEVEQAGKFNTVIKLGGGDVKTDTQFPAGTVGAFEVEFKNPDARQLRVTENKTPAAAPPGFKALEPV SYKVEIGGGASKGLTLSKIDFIRNANSTVDISQAKLGKLCKETNSFVIGDGVGETEFEADENEVATKVPDLVG EYALFVPDGTAAATPAAPAGDNKDVATPAAPAAPAGAGDAAGGAAGGGVAAGCGPGTICRTLVDGL LSLIEGAAAGAQTGKA	gi|817033923|gid|2551|Par h I precursor [Parthenium hys (156) 117 122.5 0.11 0.385 0.635 52 gi|666431137|gid|321|allergen Asp F7 [Aspergillus fumig (270) 114 117.3 0.22 0.301 0.602 83	16 entries >35% ID to Phleum pratense group V protein. BLASTP 50% ID over 100 diverse taxa an dproteins with > 40% ID and > 40% length of coverage. No risk of cross-reactivity
117	>EAA33888.1 hypothetical protein [Neurospora crassa] MTEVGPADRRKLLHSKRAEANSIVTSRKRKLRELYAVATDEDGFPNHDLNDLDTRPASPGEAKFLFDCEILQ GRRLAERLLPVFQRPRFDTLQHIATADESSLGHGPHVVQQVQPSPLIHPNHTIPKNVQHNGLPSPAPPASSIN HEPERTVPYNQVPNGAAGPQEALKAFAPRQEFQKLAPVQGSAVKTADGPSGESKPPAKETPVLLAPAAPH GNGRWNGIINNAPQGRVLPTPQTVAPPATAPTSTTKTANLGEGRAGPKDDTVSRGDAEEKARPKPTITSV NQLLSNGDSIRYPDTLSSPSSTVQSAPTPLGNEASASTSPDNEASQSFDKPVSRPEQELRRATTDNKGVGQF TGPSVAVPELRPQPQQPGVYANGAPEVPISSAPSVRPAASGAEAQLLQESAATRTSQVIGKAGVAGPHGA HSTGGLQTQHPSAVNGEVRNMMNGDIPGKHVASQASVSTGVAVTKAALPEVAKQGPLPQGPESRNNRA DVGPTPMDLDRIPTAQAPKPIPSVHAVQEKAPSQESARQPQPSSTAPSTTPPSAQPAVSLEKTVPGIQINAP PETETETQARTSQSSHPDTESAVADEEGDMPPGLLTHRLKSLSTRLRERRRKSVPTVVFGKQYRKPRFSDDT ALIVNKPKPPGHIPSEDYFVTLFIESFARTSSWMKPLEKLLHSAHKTVSTSDQTLSILDHQACKILRRVYHLQQ DKWSLRQPVRCLEPARPASHQDLLIKEMKWMRTDFREERKWKRAVARNLAYACAEWYYSSPADRKLLQV DAKIPPVRAVDNADTSMADAPETGESLVPELDHSDSPVGNDEEVPELPITTIAPATIFALQDDEVVFELQPSR TADLLLENLPMYGSPLKVPKFDWIIPDYDPPDAKWKRPAVPLSKYVEGEMVLDVKPQPQKRSRFQFQGEDEE EEEEYVFGAQPDKGAKLPPTSTDVALFAPEMKLTRDRLHAGHQFRPPSEHPMPVQSFFESRIASQWTLAED DQLRALVREYSYNWSLISSMISSRSSFPSAVERRTPWECFERWVNLEGLPSDFAKTPYFKAYQARIDAAGRT ILQHNQNAAQGQQVGPNGAVAPIPRKRPTNTMRVERRRNQKHLALFDAMRKLAKKREAAAQKQQAQA TMTAMRKTNEQQRQQPQQQLHLQAKTPQEYSLMRAARDQQIAEKMAHLAARQHEIIQKRLLTQRQAQL AATPGVAQVPQTAAQLAAANSLNNAAARLNIPGQMAVTAQKLAPGRVPMQAPAGIPTVPAQLAASGLV PPLPVAAIPQAQLQAMQAQHRLPMVNPTPDINLVMQARRIQDQQRAVAVQLQQQQHQQHQHQQHPQQ QPQQQGQVQQQVVSQQQQQQHQPQQQQQPQQQQQLQQQQPQQQQPQHQQVQTPQPAQQQPQQ PQVTQQPPPVPQVQINGVQQGSPTPMRPVVNSLNNGVYMSSVSAQAMMASFNAANSVAGMVTSPGAG LSMPMLPAGSPRGPQIPAQQLPYTHIHTRLKEFETHFRNKNPGATQDQIRQMATEHLGRLIVQTQQHAM NAAAGGVGHSLGTVATTTSPHQYAQLLRAQQQAQAQQAQAQQQAPQPAQSQLTPAQLAQAQAAAAQ KQKQAAAAAAQAKVLAQAQMQTQTPAHQPHQPQAQPHVQAQAMAAAQLQAQVQLQAQAAAQKQA AQAHPQAQSQGQGQPPQQTQRAHQVQQVQGQQAHQLPQGSQSQQIQQQVQQSPQARQQSQQPQM VRQPVQQAQQPQQLQQPQQSQKTPQMQPQQQVQTPHQQAQKAQQSQQAQLAQQQQHQQQQQQQ QHGQAQSQGQIQGQGQAPGQGQAPGQGHAQGQVQGQVQGQVQGQVQGQVQGQVQGQAP GQVQPQHAQHSRHTPNSQHAQHTQQAQHARNAQQAHHTQQVQQAQHVQQPQGLQGQRHGQVHQ NGQQLHQQHQHQQQQPQQAQQTQQQRQQVHPAPQLPQAQPPQHSHQAQAQHPQTQQAQAPQAQ AQQPQPPQQAQAQQVQQPQQAQKLTQQAQQAQQAQGQQAQGQQAQGQQAQSQQARAQQAQVQL	>35% identity over 80 AA of glutens in AOL. BLASTP 100 taxa and species with identities of ? 50% or so, over 30% or more of the length, low risk of cross-reactivity.
118	>ESA42480.1 calcineurin subunit B, variant [Neurospora crassa OR74A] MGNTTSSVLDNIVQGSNFDREEVDRLRKRFMKLDKDNSGTIEREEFLSLPQISTNPLATRMIAIFDEDGGGD VDFQEFVSGLSAFSSKGNKEQKLRFAFKVYDIDRDGYISNGELFIVLKMMVGSNLKDQQLQQIVDKTIMEAD LDKDGKISFEEFTKMVENTDVSMSMTLDQF	13 with adjusted 80mer values greater than 35% by sliding 80mer	13 matches in AOL with modest identities of 35-41% ID over diverse taxa. By BLASTP 100 matches with > 93% ID over 80 for homolorous proteins. Highly unlikely to cross-react.

	F	G	H
119	>EAA36273.2 vesicle-mediated transporter [Neurospora crassa OR74A] MLQRIKGAIDRTIAEEQARARAALEGGAPGSSHVRNSSSLSRTSSAAGTQASRRPRPSNNLSQDMSADGT VTTSDPAVFEAAFVIDDTDESNTPRIGTPVSTDKEGKGKDTEKPAINTEPVKEGTDPLQNGDRSSVNKSPA GQTARSGTTTPSTTAELSPEIRVRLRKLDKLEKTYPELLRSYRIAHGRATSIEPFEKALRENTPLTSIKDPEALIEY LNQLNLKGDMVMDELKRVSGEKDSFKKKAEEADKEAAALREEIAALKAAQAEAAAAKDAKDAEASAEKTP DEKTDDKQEAPEVKSDENKEIQELQTALKTKTAEVEKLQNEVKTLKEELVTAKDHSAGLAESLERASSELSEA RDAAAVKASIETQLEARKAEIESLTERLTKTQSQLKEVETQLQKEKEEGSAGLKETAAKLAVSESKAEELQSEL TQVTEAKSTLDAKIEGLTSEIETLKKAKAEDEAKIDELEKKIKSTPTLTTAPAAAVTTAPPTPSTPTQPASLNKKK NNKKKKKGGASVTPAATAPEPTATEDQPPMSPAEGPATAELTAELQAEQARLKEELARLQEELADKDQRIE RLAKQRKTEEDLREEIENLQDSLKEIGFEHVETKQRLKELEQEKKELKARIDELEKEVEAAASTAQTNIKLQSEH ESLRQEFDDLKQKSQTLQSDLAAAQQLAQSRYKDLTDLREVLQKAQPELKSLRQEAAALKTVREELAARNAD LRNLEKREKDLKADLVCAQRLAADRDGEIKALHDKVGQETNARLKLEDEKRVLGRDLRRSEAEKIEIAAREEK TARELQRVQEEANKLRPRIRELEEEVNRLRKEGDMMREEVQLKSSQYTSAQNLLGSMRDQTAELSIQLKEA QDQCESLDEELAETRKMLSERTREAETMRRLLQDVDERADSKVRDMRAKMEAAVEERDRIEEETSALARR KSRETEELKQKVRDLEREVKSLASEKDELEHREKEWKKRRDELESVEERSNAEVEEMRQTVSNLRSTLDASEL LVRETEKKNAELRRSVDDYRLRYDKVQKELKTVQTKLASMTSLAGSGSRGSVDSARSNSIVSANATPDAMY	Twenty diverse prtoeins with sliding 80mer of >35% ID from HDM to anasakis to blomia to Periplaneta to manioc	The low identity AOL matches of 20 proteins shows minor matches. The 100 > 48% for ID over hundreds of amino acids shows many diverse taxa and proteins. This protein has very low risk of cross-reactivity.
120	>EAA42264.1 hypothetical protein NCU12107 [Neurospora crassa OR74A] MYSSSNSEATEPTSTPSQFSQLFSCLTSTMPSPTEPPPRPRGTNAINNISDTNKYKDAPNPRNEATQLGVGSG RGAHPLPVEFPPLAAFKHAGTLSTTSGEALPGTFMITDEHRRDDDGDDEGEEEEDEILFMRPTPNSSYASSL RVSTISRSRYSSMLGTTKRDGKDESDSESDSDSDSDGGAPLFTPSRDKSFQIGNSSREENRAKRFDTSEDLGR PAQLVDRHRQQQFPHGHHWANSNTKADAAQSIHHYRPKTLLASFRPGIPSPLEIRTEPDPDAHPAYFSTRF VKRAVVRLQARRLNGLSSLDHSGRIESLIDGIGRQQMNGVEQRTNGIEQHHIKSFNPLTTTTTTTTTTTTTTT RETKTNYCSRPLAAQVPKPPTDTIITVPPTKTPTTTETSTTENPTPSSSFSSVQLGPFTLSPSDVALLASSEASFE RLTTPKFHPAFSGSGSSSSSYSYRVFHLVQDSVGTWMDGSLDVGAKLGLKKKMMMMKEEEEGEEGEEEK EEKEGEEEEEEGEEEEEEEEEEEGGEEGEEEKEKEGEEEEEEGEEEEEEEEEEEEEEEEEEEEEEEEKG VEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEWEWVDHRMDEYCVGGV	gi|18536|gid|2083|Beta-conglycinin, alpha subunit-like (605) 263 204.8 3e-006 0.376 0.712 125 gi|169929|gid|2084|beta-conglycinin storage protein [Gl (639) 261 203.1 3.7e-006 0.347 0.727 150 gi|7339551|gid|2264|convicilin [Pisum sativum) (613) 259 201.9 4.4e-006 0.365 0.759 137 gi|9967357|gid|2083|alpha subunit of beta conglycinin, (543) 257 201.0 4.9e-006 0.366 0.715 123 gi|9967361|gid|2084|alpha' subunit of beta-conglycinin, (559) 257 200.9 4.9e-006 0.354 0.728 147 gi|15425631|gid|2084|beta-conglycinin alpha prime subun (621) 250 195.3 1e-005 0.325 0.702 151 gi|94468546|gid|1024|30 kDa salivary gland allergen var (273) 235 188.6 2.4e-005 0.326 0.603 141	26 matches of very low identity over 80% AA. By BLASTP only 3 N crassa proteins matched. The many repeated aspartic acid residues and the E scores skew the results. It is clear there is no risk of possible cross-reactivity from this protein.
121	>EAA27368.1 hypothetical protein [Neurospora crassa] MSDEVSDFLRSVELLKGRREEEDEARSRELEQKILAEKAERQARRLERARSISPQKSSPANTHHHRTSIAIASTP QPPDGVDLSAPAHETTGSPRAHSVQLSDPMEPLSLASPTKENEPPSSPSSPPSSSTPFDSSESPSKRSSQILTSPS AAMPSARPLSWQRRPTSQASERPKTRPLSVYAAENAAATRANAAITSPTEEQPPQSETAQVEDEDAVDTS DLSRTQLPDMAQDASANTPAATEPEATPARQSLLNSPLITSAPRLDPPTGDSTHDEPEPPSNRMSMMSPN SRASPATSRTGSPTKGLGGFVQSAMMKRSDSVKRWSVNSAGLARAESTASNRNSIFGPQLGSPTKPDTQP DAATQDDSNPKPASRPASIPVPSYEEDRPVTPAPLSITPQPSATEAKETNTEGGEEENTSIPVSPSKTMDPRR WSPSKSSSWLEAALNKPESPKTKPAPNANQPAWMVELNKAKAQKTGNTSVDLSRSASVPLRKTEVKTGGL MRTTPVGSGLKPSTGLSISTSAAAAEKPALSGLRNDLVSPLLRKGSEDPASLAKTPTTEEASTPVLKDFRANLK SRAPPSSGAGTEGEVDELKNVFGKLRRAKTEKWVAPDPLKDNILRGKSLLNHTGGPMRSERKDELKEAILKK KEEFQKAKQEGQSSPTKAASPVVSEKAIPEALARRLELGRSGSFSSKSVDLPSSATSVTSPSVASPGSILDFDRT GLLSPKSRELTDIAAQIAPKPTTGLDKEASATMEVQSTTPKAVNVPGRLSKVGGLADRFNPALAGLLAKGPP AAASGASKGSGAADEETTPKPGPQLTHMTKNRARGPRRKAPTSVLKPAEDNEETLVVESPPAAKEAVSSPI EEKQVTPTMPKPEFITRVDSRASVKSHGHQRSGSVADLVNSFKTKVAEEPKPAEQPNTADLPSRSPTKITRG RSATKVLEQATVFAALNQQPSEPAEPKSEMASASPARPALSHTRSKSKVHEQAALFTTLNRQPSEAAEPTK QPVTQSPVRPALSHTRSKSKVQEQAAAFVNKMKAEPTERSAETSPVRPALGHTRSKSKVHEQIAALAAASQ KPSDAAAETAPSTPTSIRGRSRAKSIVQEKLAALATADHQMKPAEPEADMAAQSPSPRKLDMKRMSRFLD EQTQPILNPETEKTSRPSSPVKQRAFPDFPRTSSTKDVSPVKDTKVDSEPVVSVKAGSALFGGGANAGLPQV TTKPTSPPPTEPAAATTTSLPPRGPVKTPTPEPRTELPPRLPLSALSSPSFTSSRRPSVPEQAPTPEPQPQPEVC SPPPPKVPPKSARPLPATPEAEAPPVPRKDSIPLPSLPNFDFQQQPQPRPQQQPQQQQQQPQSPQHQQTQ QQPHGLRHTRSASKYGSDAQALLSDFFGTERPRRRYMADAADVIMRRPNPGFRIQTQRAQLYQFAADGK KLPVPAHRERILFEREMYLCTHTFTNESGKKVSEVYFWVGDEVPEAVTDDALMYAAREARTFGGKLVKMV QGKETSEFMQALGGIVIIRRGSSNKFDSLAQTMFCGRRFLGQVAFDEVDFAPSSLCSGFPYLITKQGKCYLW KGKGSDVDELGCARLVGMDLSLMGELEEIEEGFEPPNFWRDIFGGEGPGVRPMSADHWRLKPNYEKYCG RLFCSNANASGKDQIVEISPFKQTDLLSTNIYVLDAFFEMYIIVGARSQDQYASFHNALDFAQEYSILAAGME DRPFVPISTVVLEGIPRDLKSVFRKWSDSLSPTIMNHLGGNVTVGGGSPPADVRSPGSVRSFSNSSIMSQHP	gi|21673|gid|151|Alpha/beta gliadin-like protein produc (307) 275 205.4 2.8e-006 0.376 0.582 141 gi|508732623|gid|150|omega-gliadin, partial [Triticum a (366) 274 204.0 3.3e-006 0.248 0.504 339 gi|170740|gid|151|gliadin (296) 272 203.5 3.5e-006 0.366 0.582 134 gi|21757|gid|151|Gliadin-like protein product [Triticum (296) 271 202.8 3.9e-006 0.366 0.582 134 gi|170724|gid|151|pre-alpha-/beta-gliadin A-IV (297) 240 181.6 5.8e-005 0.343 0.562 137 gi|1137166044|gid|151|alpha-gliadin, partial [Triticum (293) 239 181.0 6.3e-005 0.346 0.579 133 gi|75317968|gid|154|LMM glutenin 3 (373) 240 180.7 6.5e-005 0.309 0.494 162 gi|170722|gid|151|pre-alpha-/beta-gliadin A-I (262) 237 180.1 7.1e-005 0.321 0.512 168 gi|21765|gid|151|Gliadin-like protein product [Triticum (313) 236 178.7 8.5e-005 0.338 0.554 139	Very poor alignments to AOL with > 35% ID. BLASTP has 100 identity matches over part of each of the proteins with over 45% iD from diverse species and proteins. Highly unlikely to represent possible risks of cross-reactivity.
122	>EAA26704.1 predicted protein [Neurospora crassa] MTRDQTTSSTTTTTTPTNPDAAARSWLSGGSGGSPPPPPAPFAPSQDLQQQPPQSNNTTPQVVPGQQQ QQQPSQQQQKQQKPTTHSSNRISLTEVASTISPSDFLSVHETPCARQGFMTGIGAGAGIGVLRWIMGLPIP KAANWGVGCGIVGAMAQYEYCQWQRRKEKEKMQRVVAVYTKKQAENRAKEAKEAKEKKAAEKGEVV QGTSMTAPGGEKKKSWYKFW	10 Triticum proteins with >35% ID over 80	Unimportant matches to AOL. By BLAST over 100 proteins with two spots of high identity of >40% at front and back of proteins. Highly unlikely to have cross-reactivity
123	>EAA29032.2 hypothetical protein NCU07574 [Neurospora crassa OR74A] MATNGNVNHSDQYAAPSSTTEAPATASSTTPQTQNQTLPKDEVGWYFVEQYYTTLSKNPEKLHLFYGKKS QFVYGQEAEVSSVSYGRQGIQERIKGLDFQDCKVRISNVDSQGSGDNIVIQVIGETSNKGAEPKKFVQTFVL AQQPSGYFVLNDMLRYIKEEGEEEVEEPAQEAAAAPEEETPAEPEAPVEAAPEPVEEAKQTEPEAAELDAS AVDRELEEAAEEETPAAPVEAVPEPVEEAKQPEPEAAPEQAAEPEKIVEEITEEEVKKPEEPKAPTPTPAPAA APRAAAPPAAEPEKPEPPKPKTWANLVAVAAGPKPVVPLTKAATPAVPAQTRAAAPAAAQQPAAAPQ AAETAAAPKEQANEWQTAETKRQSRPQSTIASAEKETAMAYIKYVTEKVKEEDLKGLLSSFGELVYFDINRT KNCAFVEFKTQAGYNAAVAANPHTVNGENIVVEQRRPKSTAFGGSNYGSSNRGGAAGRGRGGFEGGRS GSQSGGRGGFGGQSRGRGGANRGRAPTAQTPTA	8 proteins with >35% ID by sliduing 80mer	Unimportant matches to AOL. 100 proteins with >50% ID matches over diverse taxa with long alignments. No risk of cross-reactivity.

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124	>ESA42602.1 hypothetical protein, variant 1 [Neurospora crassa OR74A] MAEEGSSSPLSSVLSSPPASPPRSVSGDWDAILVQKIDTAAQVTLEEIAAEKSTVEEPAVEEPAVEEPAVEEP AVEEPAVEEPAVEEPAVEVPAVEEPAVEEPAIEEQTVEEPTVEEPTVEEPTVEEPTVEEPTVEEPATK KTATKRSATKRSAAKRSATKRSAAKKPAAKKPAVEQGYVKEPEVQGPEEPEGEPATPLAAPSACPENKTEF RPSDQLEAQQPEEKGSTSWAAINLPPPKLRSVNKPEVPTREEEPIAPSAAPSSVPKKRKSLPEAVSSKEGVAD SRNILKPKLTRGACTPCRENKLKCLKEKPICSRCSGSGTHCVYAFEQPRKGVSAAARSVSFKAEAVPADVGEP KALSPQDAHADSAVQDLEVEKEIATPAIKAATVADSSINGQGFKGPKNEDPSTVTKRARKRASGQTPEEAV LKTDAWSSKATRHSGSSDEQLGTELGKRKASDQDKSSTTKRPRHAGDAPKKTNLDRKWEAPFVYTDEKSPL TNADLRAILLLPRAWDVLTPDERKDILAKFPDDSHILDPGTEIARPDLVSLRNNDHFRYDCARYLENIERGRH DEQWLQEAWVAHEKHKRGDYDDFLIKEFENDWATKIPAELLQKTSRKNETLAADAVAVSENKAIAKEQHK ALPGRIKSASVIQEVPPADTASVVMAETNTNHIADYHPNGLEESNTNGARYTELREEVPHEVD	gi|332713934|gid|660|Manioc Glu [Manihot esculenta] (177) 215 222.9 2.9e-007 0.337 0.584 178 gi|21585695|gid|660|allergenic-related protein Pt2L4 [M (177) 210 217.9 5.6e-007 0.375 0.613 160 gi|1480457|gid|594|latex allergen (151) 175 184.0 4.3e-005 0.323 0.565 161 gi|4887129|gid|242|putative allergen protein [Prunus ar (168) 140 148.4 0.0041 0.321 0.564 156 gi|208605344|gid|150|D-type LMW glutenin subunit [Triti (359) 135 138.8 0.014 0.188 0.484 223 gi|508732623|gid|150|omega-gliadin, partial [Triticum a (366) 129 132.7 0.031 0.177 0.491 220 gi|21673|gid|151|Alpha/beta gliadin-like protein produc (307) 125 129.8 0.045 0.181 0.500 160	AOL low identity matches, diverse. BLASTP modest identity matches, concentrated in ~ 100 AA segments of diverse species and proteins. No risk of cross-reactivity
125	>EAA28808.2 hypothetical protein NCU09846 [Neurospora crassa OR74A] MPGLPVQAPNGVPVNNSANYNDARLASSISAFLNHRQPAWTGTVVDFSPRPPTAQAPASAVPPAAESAS GEVMTPHAGASAPFRGTGRPRGRPRKHAGTLPHVQHAAHDGTPQHGHENGQEEEAEEVQQQQPTYG QGPPSAQPQQAPQRPGRTAQTAAVLLSPAPSDEPSPAVSNSRESPSINHNAPAPSYHPVIAARFVHSLNDD NTGSTFTRAGNNGSAPTTPAVPPSVSPFLAHPQLPPQSTNAAASIPHSPAPQNQSLLAHGAPQRDGQGQ GQGGHVNSPPLPLAPHPGERAAKRKRIDPSQPPPPMAYLEFRHVLRRYSNSPGVKDRIKAGTEFARFSLLDQ ACIKEDGFFLALHQIYCMWSSYAQNAYDILPEYPPHTIDEGLGIMEGLLKKNLTIQPMHRQFFENFPASINQL CEPPTAYNTAIRQVGRFLHLIGTSYGTFVATVSQRGYPYLVDELLSYWECYSPVLQLILFTACRRRIGVPDGH GCAHEIDRAFQIDQRNHAYLYQSGNLNPQFYQTWRNQQELEAQNAELITYYRSRVHQVRTGTGAAANG NNSIGNNSNTTPQNRRLSIQTTAPAATGPPMPNSAPPNQAAFTFSNATNPYSPVFSPGMEAFHNAYPTQ NLPSAQHSPPSVHPSMVTSRSPQDLSNPAAQWQQQQLQQQRQQRPLYPQQGVQYPPHAPQQHGLQSM VITPQLWQQMQHEGALRRQQIPQQQQQHQPQHQLQQQQQPGNQRQQWVTAAMTAAANNGASAA QLYAARAQAQQQLQLQTTMPLAAQIAPVRPQQVQAQQNPQIQQQPQNVVPREPAPARTPDIPLVPPLGT TIHPSEYAYEASDRRSLLMALHQAHARSPRRTVVNGESERMYQAVKELVTKPTQLAENVRIYTVPFEVTDE QYRLRVMTDRRGVAIAVQPHQSLRWRIRCCRINNHQKGVILDETWRATQSNWPDIFISFNGNPLEIRRKP HFGKDLSIELTEMIVSGKNKVEAVIQNAPSPNFFIAVEMIETLRHSTIVDDVWKNRLIPESKTLQIIKDRLGGS GADDEVSVAVPYLSIDLTDPFSSVMFHTPVRGGACTHLECFDLETFLNTRQVSKVPCGHEGRACKCPPQPTS PDKWACPLSGCDKIASPYDLQIDGFLLKVRKELERTGRKPQYSKALHVEADGKWTVVVQDDDDDDDDSDG	gi|73912496|gid|150|omega-5 gliadin [Triticum aestivum] (439) 326 273.1 4.7e-010 0.295 0.521 288 Over 58 sequences with >35% id over 80 by sliding 80mer gi|208605348|gid|150|D-type LMW glutenin subunit [Triti (346) 320 269.6 7.3e-010 0.307 0.498 261 gi|208605346|gid|150|D-type LMW glutenin subunit [Triti (272) 298 253.3 5.9e-009 0.302 0.516 281 gi|208605344|gid|150|D-type LMW glutenin subunit [Triti (359) 297 250.8 8.1e-009 0.291 0.505 313 gi|508732623|gid|150|omega-gliadin, partial [Triticum a (366) 261 221.7 3.4e-007 0.264 0.509 330 gi|335331566|gid|154|low molecular weight glutenin [Tri (369) 252 214.4 8.8e-007 0.279 0.521 265	Poor identity mtches with AOL. 100 alignments of >30% identity over BLASTP to diverse proteins of fungi. Little or no chance for cross-reactivity.
126	>EAA32953.2 hypothetical protein NCU05190 [Neurospora crassa OR74A] MKSSYLLASLALGSTTLARLIPRADIDSGQWKCHWTGHCLGDECETNRDCDGDLVCRNYECANPGGPVKP TTTRKTTSTIKTTAHPTNTVPPGPGCVWLGHCLGDPCKTENDCDAEWICLAGKCASPGPTIPVPTTTRPIPP PITTTRTTSKPTTVPVPTITSELPTTTSEPPTNPENPSCGDNPLACIGSPCSIDADCKFDLIICQNGVCGL	17 sequences with >35% ID over 80 by sliding 80mer kiwi fruit and HDM proteins	Low identity matches to friuit, fungal and HDM proteins in AOL. By BLASTP, 100 sequences with matches of 3%% ID or moreand 44% coverage. No risk of cross-reactivity.
127	>EAA34794.3 RecQ family helicase [Neurospora crassa OR74A] MAEREREGTSSSSSSSTSRGTSRGTTPLSLSPPPQEQEQEQQQQQQQQQQEQQNTSDTRSNQLSSSLRTFT TSATSATSSSVQQNTSNHQVLLPLPSTSSSPSTSTSFSSSLSSWVPHSLKVLYHFTAGSVTAAASTSSSSSNSG GDTVLNPNASGGVLGRLLTSSTAQSTLMTRNNWGEQVSWLKRSGNSIVVPQGPVYPSAAASIQTTTPTST TTTTTPSAIEDGYSSTSSFPRDNNLFPLYSTPAVTNPQVSGSESLGGAGRGTGRGRGGGRVGGGGPVQQQ QQPPPLGPPPPLPPPPPPPPPQQPTQQRTQQPTPNPTSTSTSTSTLATSRYTNTSSTNDARPATRQQIAPEV GASTHQDSVGLGEGGGGGMAKLSVKNNLPRPHLVSLSSSTTGSGSGSASRSASAKHGSAGSSTFDHEQHQ QHQQQQQQKRQRSQSEARQQQQQQQQQQQQQQQQQQQAQHHAHSTYAQRPQPTPQQRPPQNLLTP ASTTGASVGPLQRAYSVSLAARQSPSTNLVRPKTDSPAPHTLHLKNKKNLRHPAPTPDSPIVDDDIFSDAVDL TEELDHDHDLNGKDKDNTDNDNTVASSSLIGFGDDKLLWREDFAERAEPEHERGGSRPRQVKKRKISNDYI MKDEDVSLFDDDGEEDEFMDINELVQGDRESTPKPKATSRSVSTRLPPTVSLQRGRSPKRKEASVEKRTTEN QQQADREDEPSFMSSPDVDNSRKRKSSGSPTGLTTPRPQQKQTEEVPGTTTAKKPRRSEVMDSEDEAFTP LSAGSLPGSAEFFRSGGTTTRELGLDEDTVMDTPSRPPVESTLPTLESVESRPPPLPPMDLPSQRKPLEPLNTP RNQLLESVERPTQQPSVGPSFAQSSTLAESSLPPSMPPPSEDPLNTRENSNLEEFDYKLYKPLLDLFVNAPAIL ERELSAVNDELQENMIKLRDCLRLPREERDRAREEVKKEKEMLKRRDIALRALQDEHKLYVKKRKEHNLINEE IVRAYAEEDDEYEDQLMAQLDKLDDEVEAIVKSLTRLIVAAGITEKSFDLKKEEEEEEEKPIIIATPTPSTRTEAP VLPTTEYHNSQQVILQTQHPAAQQVSHRVPPPPTPSFQTARQTPVSYQSRPTNNSFPDISAEEAMMFDKE DPFMEQQHAPASAPFQATLPQRNSPFKTAPFKPVHGHDYFDDEDDDADLLAAVDSAETYTSTAATTTTNN NNHLRSQSVMSTSTATTIKPRKRNENANAKKAKSVHAKLSMPPEKMKYAWSNDVRKALKDRFRMSGFRQ NQLEAINATLGGKDAFVLMPTGGGKSLCYQLPAVVRSGKTRGITVVISPLLSLMLDQVNHLANLMIQAYAF NGDMNSEMRRMVFQKLDAEHPEHELQLLYVTPEMVSKNQTFVNKMMDLYRRKKLARIVIDEAHCVSQW GHDFRPDYKAIGEFRKRFPGVPVMALTATATQNVILDVKHNLAMEDCQTFSQSFNRPNLYYEVRMKEQNL IARIAELIKEKYDGQTGIIYTLSRKSAENIAKNLQEKHRIKAKHYHAS ITTDEKISVQHEWQTGRVKVVVATIAFGMGIDKPDVRFVIHQHIPKSLEGYYQETGRAGRDGKPSDCYLYFA YGDIQSLRRMIADGEGDYAQKERQLQMLNRVVSYCESQHTCRREEVLRYFGEEFDYRKCRDGCDNCRNG RISKSTEMRDFTEIAFAAIEVVKSQQPITLGKLCDILMGKRKNEHGGVCHFGIAKGSTQRELQRIVLQLNFHK ALGEDNIMNGAGMPITYYITGPEAGAYLYNGKRLMLPVPSNKSVEPPSRSKQRSRRVDEDMDEQELPTLQ RPPTSTNVSSPVRATKKRSSKKALPTLIADYEEPSSDGPHGPLHANGYERDNFVVSDNVEPEEEEDAFEPVRP SRRGPSSRATRPQHRQTTLYDTLSHTQQSQTVSQHLATLGPPIDARTMHNPRYAQLDEVHQDIVDAFVEEV KVFEEDFRNRNHMRKPIFTETQYREMAIRWTRSLDAMRAIPDINQDKVDRYGAKFIPLVERFWGNYQEM MGGGYDNPAVAGDEDDDEGPRRTGNGKGGNKKGGGGGGGNEVVDLISSDEDEPPARAPSRNAGRGK	>EAA34794.3 RecQ family helicase [Neurospora crassa OR74A] 61 hits over 35% ID mostly wheat but also compositae MAEREREGTSSSSSSSTSRGTSRGTTPLSLSPPPQEQEQEQQQQQQQQQQEQQNTSDTRSNQLSSSLRTF TTSATSATSSSVQQNTSNHQVLLPLPSTSSSPSTSTSFSSSLSSWVPHSLKVLYHFTAGSVTAAASTSSS SSNSGGDTVLNPNASGGVLGRLLTSSTAQSTLMTRNNWGEQVSWLKRSGNSIVVPQGPVYPSAAASIQTT TPTSTTTTTTPSAIEDGYSSTSSFPRDNNLFPLYSTPAVTNPQVSGSESLGGAGRGTGRGRGGGRVGGGG PVQQQQQPPPLGPPPPLPPPPPPPPPQQPTQQRTQQPTPNPTSTSTSTSTLATSRYTNTSSTNDARPATR QQIAPEVGASTHQDSVGLGEGGGGGMAKLSVKNNLPRPHLVSLSSSTTGSGSGSASRSASAKHGSAGSST FDHEQHQQHQQQQQQKRQRSQSEARQQQQQQQQQQQQQQQQQQQAQHHAHSTYAQRPQPTPQQRPPQNLLT PASTTGASVGPLQRAYSVSLAARQSPSTNLVRPKTDSPAPHTLHLKNKKNLRHPAPTPDSPIVDDDIFSD AVDLTEELDHDHDLNGKDKDNTDNDNTVASSSLIGFGDDKLLWREDFAERAEPEHERGGSRPRQVKKRKI SNDYIMKDEDVSLFDDDGEEDEFMDINELVQGDRESTPKPKATSRSVSTRLPPTVSLQRGRSPKRKEASV EKRTTENQQQADREDEPSFMSSPDVDNSRKRKSSGSPTGLTTPRPQQKQTEEVPGTTTAKKPRRSEVMDS EDEAFTPLSAGSLPGSAEFFRSGGTTTRELGLDEDTVMDTPSRPPVESTLPTLESVESRPPPLPPMDLPS QRKPLEPLNTPRNQLLESVERPTQQPSVGPSFAQSSTLAESSLPPSMPPPSEDPLNTRENSNLEEFDYKL YKPLLDLFVNAPAILERELSAVNDELQENMIKLRDCLRLPREERDRAREEVKKEKEMLKRRDIALRALQD EHKLYVKKRKEHNLINEEIVRAYAEEDDEYEDQLMAQLDKLDDEVEAIVKSLTRLIVAAGITEKSFDLKK EEEEEEEKPIIIATPTPSTRTEAPVLPTTEYHNSQQVILQTQHPAAQQVSHRVPPPPTPSFQTARQTPVS YQSRPTNNSFPDISAEEAMMFDKEDPFMEQQHAPASAPFQATLPQRNSPFKTAPFKPVHGHDYFDDEDDD ADLLAAVDSAETYTSTAATTTTNNNNHLRSQSVMSTSTATTIKPRKRNENANAKKAKSVHAKLSMPPEKM KYAWSNDVRKALKDRFRMSGFRQNQLEAINATLGGKDAFVLMPTGGGKSLCYQLPAVVRSGKTRGITVVI SPLLSLMLDQVNHLANLMIQAYAFNGDMNSEMRRMVFQKLDAEHPEHELQLLYVTPEMVSKNQTFVNKMM DLYRRKKLARIVIDEAHCVSQWGHDFRPDYKAIGEFRKRFPGVPVMALTATATQNVILDVKHNLAMEDCQ TFSQSFNRPNLYYEVRMKEQNLIARIAELIKEKYDGQTGIIYTLSRKSAENIAKNLQEKHRIKAKHYHAS ITTDEKISVQHEWQTGRVKVVVATIAFGMGIDKPDVRFVIHQHIPKSLEGYYQETGRAGRDGKPSDCYLY FAYGDIQSLRRMIADGEGDYAQKERQLQMLNRVVSYCESQHTCRREEVLRYFGEEFDYRKCRDGCDNCRN GRISKSTEMRDFTEIAFAAIEVVKSQQPITLGKLCDILMGKRKNEHGGVCHFGIAKGSTQRELQRIVLQL NFHKALGEDNIMNGAGMPITYYITGPEAGAYLYNGKRLMLPVPSNKSVEPPSRSKQRSRRVDEDMDEQEL PTLQRPPTSTNVSSPVRATKKRSSKKALPTLIADYEEPSSDGPHGPLHANGYERDNFVVSDNVEPEEEED AFEPVRPSRRGPSSRATRPQHRQTTLYDTLSHTQQSQTVSQHLATLGPPIDARTMHNPRYAQLDEVHQDI VDAFVEEVKVFEEDFRNRNHMRKPIFTETQYREMAIRWTRSLDAMRAIPDINQDKVDRYGAKFIPLVERF WGNYQEMMGGGYDNPAVAGDEDDDEGPRRTGNGKGGNKKGGGGGGGNEVVDLISSDEDEPPARAPSRNAG	61 AOL hits but low identity and coverage for big protein. By BLASTP, 100 sequences with at least 35% over over 48% Or more of protein. Low chance of cross-reactivity.
128	>ESA42939.1 hypothetical protein, variant [Neurospora crassa OR74A] MIPLIPVVAGLAAVAAPAIVTAPILAVLGFGAAGPVAGSAAAIAQGVIGNVVAGSPFAIAQSAAMGGYGA AIVNGVVQGGGLLVTGISSAECLMSGCGRDEI	gi|11991229|gid|595|pollen allergen Hol l 5b [Holcus la (296) 90 109.5 0.61 0.370 0.605 81	One AOL match Hol l 5. BLASTP search 100 matches to proteins with ?47% identity and over 40% coverage. No chance of cross-reactivity

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129	>ESA43867.1 response regulator [Neurospora crassa OR74A] MVDLKSKLRARLSRRNSGISLLTSSKSYSGTGNHGSIHSPNDDARSDKNLDLESVRPTSSVSADAITDAGGRG GREQKRVGGGEEAAGGAGTGAGAGAANAAPGEHKEKASGFLALLIGASHSARTGSRQATFPKHAAQSIR SVDDARQTSETPGAITGQPGEDGRLKQYGSNTDDINGDCLSTGGSGDKDENADLQLVPPAVADPAGAGA GSGHVGNSSSARAGTDNYTSKCDTGSPNSKSAQQHGVNAAPAAAGGAATNATSAKSASGQPPASSVTN RAAPGAGSDWTPASDLRRVSISSARVSSLASIHEDDDLAHTAAGDEPLPPPTTSTLATTIDAAATLDATTPT NPNPNPFENSHHRQLADAAAQSATPTTAAPDIVRRVRLIDSAVNSSSSQPPTPAPLATSAAASPSIVSFNSV APLSPTGTVPLSPSAETPSIAPLPFSTSTPANLNLNPPSTDPTATPGSPTTTALSTSTALTRPSVPPRRQSLLPSR QTTLIRTLLDANQTDELDTGANTNDHLLPISATMVIRKIWVKRPGGSATLVTINEEDLVDDVRDLILRKYANS LGRQFDSPDLILRIAPRESQRQERVLGPEEPMARTLDAYFPGGQTVDEALVIDIPPRRTPKESPRTGPPHVPH GLPTYYEETHRPSEGGTDYFGPGALAHLAPGIGGGPVMTAPVNGPPQSHPHTMSNLGPGHIPQLPSPGG TRPRQYRERPDRPRLGRQHTSSPTILNVVGAGGHAATIAVSSANHGMQQSSVSKVQRSRTHSIASSEQSTT GAVPGPPASAPHAPHVPSAPPLPTPPPAAQEPVPAIPTQHPVTTPPARVASPRPPTAMATRTKKKKATPDH TPLPAVMLSSAVPPINVLIVEDNIINLKLLEAFVKRLKVRWQTAMNGREAVNKWRKGGFHLVLMDIQLPIM SGLEATREIRRLERMNSIGVFSNSNSNGGTNGGESGGDPDVMPEEDKLENIELFKSPVIIVALTASSLQSDRH EALAAGCNDFLTKPITYIWLERKVMEWGCMQALIDFDGWRKWKDFGSSNGEDKKDNASAVKDSSGMAS	3 matches of >35% ID over 80 to allergens, one Dermatophpagoides, one Phyalaris aquatica and one Alternaris	Low identity matches AOL and short mostly. On BLASTP, 100 matches of >55% identity or more and over 400 AA,. No chance of cross-reactivity.
130	>EAA35470.1 predicted protein [Neurospora crassa] MVSLFGIKFGDKKKGKPERAAAGDNSCADSEKSVSLQRAITNESSRSDAAASPILPPPGIAPYAHGIGAQNH ATSSMSNLADLHSNNASGVKHYASDANLRAKFGAMNGSAASLAHGPGPVLSPRPQTANAKSKPWDNSD LPDIPTIKKASTAPVAPKSPLNQVATDFPAIPMSTNVVHSPVERKVEAGVRLVQSDDDAEDVQGPISKDQQIL ERNVGEDKISDEMSPTEPLARPHYTSLLDPLNGPGPVLKNIDERPSSRGGMQDAPGPVFRGNIDERPGSRG GVHGGPGGPGPVFRGNIDQRPGSRGGMHDGPGGPAPIFRGNIDQRPGSRGGMPMSGPNGPPRPFPAP GHGPPRHGPPTHGLPHPPAPRTGAPGPRGPGPHPGPHPGPPRQGPPYRGPMPHQGPPHPGTPNRGPP RQGPPPHGISPQGTPRQGSPHQGPPRHGSPHGAPYRGTPPPHGPPRGPLPHGPHQSGPHSSPHGTPHGP PGPLRPGLRGPLIQGSPRQGPPHGGPTPLSAPNKPLPQQPGGPTPLSAPNKPLPQQPGVDTRGPLPHGHAT LGDLPRLQIPGLHSRPQSPAVRALGPAKRSQEDEASPRCISRPDVVQSPKSISAAETGSNSRSPSPPESIAEHLE DDDDSIFSRPIIKTLGARRDTLTVVSPRRQSLSMRIEELERSLIGAQKGRSLDDQQRSFDDKSLNSASNIYSQLH LSEDEDDDEPILSSIQPAPLRTPTRTSAANPMVADMFSESPTAEDPPTPIAKDDPETPIISSHPGSFSSAGGSG YGIPTPRRGGPPAAAFRTRRPALEEYSLYSGRSTPVSRPGRSDTASTTGGNMSSPYPGTADSSTFNSPQRS NTPQLCHPPPRRDFNPPTPALTPDPEPHRPAVSPLANAGFNFDFGPTGSNQNISPSS TFGDPTSASSLTTTGPPTPDSMIGPGPAIISPLKPAPPAPRASTLNRPHIPAPLNFNFSPDADSRSTTSPPSQH DQSQQAPYTPPLRRATTPAIDGTFDGLYEDGTDTGIGTRPSTALGAHRPPPMTPIFGQHPPRAPSRAQTP	26 proteins matched with >35% ID over 80 from Boss taurus collagin to collagin of fish salmon to Anisakis simple allergen to wheat, to short ragweed	AOL, many proteins with low identity matches to AOL. Blastp sx proteins from N crassa and closely related proteins, 80% or more identity. Then many dissimilar taxa and proteins at 34% IDup to 64% cover, and a few of lower identities and short segments. No concern about possible cross-reactivity.
131	>EAA28654.3 ion channel protein [Neurospora crassa OR74A] MPRLEDNQVYDEEDDLLNRNRRRVVRLWEDFVGFAFQGNVLEIAFGLILATMFTALVTSFVSDIVLPPISVLL PLNKNLEEKFAVLRSGANHPEEGYNTLKQAQADGAVVMAYGFFMNRLLNFMGVGFSLYSIASIYQWMSK DPIIKKTVPCPYCCKFININSIRCVNCTSWLDGREDMLRPMHNAAPSITTTGPAAGGAGPSAYQGDGYSGA GAGPMGDGGGGAAGAVGGANGGGGDGGDGDGGGAANGADAGGGAGGGGGGGPVGVTGFGFG AASVSYGASVSTNRFGSFGAGGAGVGAGVGAGSRFGSLGAGGSYGAGSRFGSYGGGGAGGAGGAGS	Fifteen proteins with segments of AA with >35% ID over 80 AA to allergens from collagen of salmon, Lates and beef to ambrodia Parthenium and maize proteins.	Few proteins of >35% ID to AOL, collagen and Art pollen proteins. By BLASTP 100 proteins with more than 50% ID over 100 AA, diverse proteins from fungi and others. No concern about possible cross-reactivity.
132	>EAA27451.2 hypothetical protein NCU00423 [Neurospora crassa OR74A] MVSPSTRSTRSRYSSPRQIPFGSVESTKGQRSASASGSGSGGSGNASGSGSGGKSKGNGGGGGNSKSSGT ESQKTFMDRWLEPPVQNKPSFADAGLVRHGVVEGMAPLGTMPKAGFFKKATPAPPPPPESKPFKTTRIVIK RPVAPPAPAPAAATTPAPEEDETEDEEESGNGSIMTGADETGSERMTPAPIFSASTRRPLPVSQTLATSH GLMVDPRTQLMDAVIEKAVEEAVAHHRYPTAYALKTLYEEDRHNSRFRVIAEKVFTQTADAGMLEEFARM LHQKKKEAKRKNMGLNYFEGMTAMGQAPPKPQRASYGHLVTLDISAVRRYRDAVEQQRAGSGDVKQEE ASHGDAPERVRQPSFVVQQQSLHQHNQQDLQSRQRLQLQQEQRQPQHYQPTYPEPGPHPKPNPEQGPE PKQPEQPVAGPNPELAPTSEPALEHLPLDPQLLNPPHQQPPLSPQPPSPPQQEQKQQAPQPELVSNPTPRIS FTGGKADKEEQEYKDQQFHSDPPLNLSSSHFERDPEEEGEKEQEHLLALKTSATTPVLALAPALAPASREPEQ EQRPPDHEQEAEGKIREIYVRKKHKSPRKPESARAKMVANGGNGKAKSVSPKKRGRATSISSSSSLSSARSLS PPADVYDEDGLGSSFAISISPSRVSPAPIISPAAAVDSAASGAGNGVEGGNRDAVAPHPITVRRRINVRRNR NVSPALPSPASPTGRQSDSLDPAIGYPYEMPAVVDAPLFPNLNSKKGSKSGVQGVVFPSKVGRIDENDPKYP LRQSAKKITANYNKPFPESFTRESYPKEEPSVEVEEEVLVCAPLTRPLSSAAPETTTRATSVSAEGRSTRASRKR SHVELEEQQSSPTAATFPASDVASTAANSRAGTPALRPAKKPRTGLRVKNSPMKKKTSAAGIPRASGERSSP TVTTGNYAKEDDNDDYCSSCGGNGQLICCDGCTRSFHFSCVDPPLVQGAMPDEWFCNVCRTAHNPPVF PVYSGPFASLMEKLEAKNSSAFALPLDVREYFEAVRTGQDGEYEEIVPLVKPPAKRKKSDEESGPDFFRLRDD KGDPAICHLCQGGATARTRAIIPCSLCGLFWHLDCLDPPLANPPVLRTWKCPCHVDDLLAKVPGQLAPAHK FRKIKGASVIRPAYGRAYINNGYIEVEPEASDDESGWKNVETYGKVVRLPAKGIKLDFLSRVRENRKGKPIPP LNLSQTTGAAASVGSSLLNKRSLEEQQAVYNLAALSGQGTSGVNTLVDTLLAQADPSIISLMASGNSDHLA NGNLNHMDQQSLRAMLAQMEKMTSQIRSMLEPVTPMAASQDQLVSSKVPSLTNSSQSITDGESEKTVRD VEGTPTVKKELPSSPAATDDVANAKQTKEPAPPRRKKRKSNGRKSADSDAAVLHNGDIDVDA	Forty forty proteins mostly to Triticum and Bos casein in AOL. BLASTP was positive over 45% ID from various protein sources including many fungi. No clear risks of cross-reactivity.	over 40 AOL a number of Identities of over 41% to many proteins in fungi
133	>EDO65448.2 mitochondrial triosephosphate isomerase [Neurospora crassa OR74A] MSSASPSRERRRLVGVSTKMYFSHARTTNFITSFLDLMQHHTSTKTEQSNDNRNNLAAALASKIDIFIIPDHL SLQSAINRTANHPSQSGPTDPKILFGAQNCHWEDSGPFTGEVSPAVLAEVGCSIVELNHAERRRHFAETDA ITCLKAQAVIRNGMIPLICVGEGSPGQIPALSEVAIMKAAAEVVDQVELCLEGVDPTKEVWLAYEPVWAIG AKEPAGVEHVRGVVRTIRKSEVVRGREERGGVTRILYGGSAGPGLFGQLKEVDGVDGLFLGRFAHEEGQF WKTICEVAEVEWEGR	Eight protein matches from diverse sources Salmon, HDM, Pangasiadnodon, wheat, shrimp and other crustaceans at >35% ID over 80 by sliding window	AOL alignments show low identies, but 8 with > 35% identity to triosephosphate isomerase of salmon, HDM, wheat, shrimp. For BLASTP, much higher identies to proteins from many species with >46% ID over full lengths to to 100 proteins from various fungi. No clear risk of allergic cross-reactivity.

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134	>EAA30358.1 hypothetical protein [Neurospora crassa] MSTQPSDSAEPGAAPAAVSTYAGVENTPTVPGSEPDAAKHAEEEPKVVNPTEPQPTAPVDNEPKPAAAP AQEADSPADIKDSVSTTAGELSPLAQLWKAAEGHAHFEIWGVPLSDPERHIPTQIIFQKFLNANEGQVEKAK DQLLKTLDWRQKTQPQQLLRKMFSKAKFDGLGYVTTYTAGDEPAVDEPEQKEVFTWNLYGSVKSLDETFG NLQEFVEWRVALMELGLMEINIGGAIKPITADYDPYKMTQVHDYKGISFLRQTDVAKAASKECIKVLGDNY PELLKEKFFLNIPAIMGFFYGLMKMFVSKKTLNKFHPMSSGTNLAKEFVNTKVDGLGDKLPAEYGGKGADLK TLGKAPIVT	24 sequences with identity matches of >35% to grpoup V allergens of Phleum pratense by sliding 80mer	Timothy pollen Phl p identity matches over 35% to 24 proteins from timothy. BLASTP to ID matches of > 51% to 74% coverage of proteins from many 100 diverse species of fungi. No concern about possible cross-reactivity.
135	>EAA28623.1 predicted protein [Neurospora crassa] MAPFTMSRILCGLLLFFLGTFALLADTTKTGSGQLSKAETRRLAASATATVPVATPAPLVVIGTRTTTVSTIAI TTTTALARAEPTPSNVVIVAPAPTTVTAKPEPAAPSLLHAAPLPDDPFRLFHNDDNSLLSCYSSGRQGERWK FIESIDNFCHALDRESLSRRIPLTGFRQHSYNWEELWVRRYTHYDISLDVKPGCEWEFDSYECGQYLRIPVD MCDMEMENDKKGGEVQARTGYGDRDVQNHVWKGDEVLKQYGEARLGDLEKKGMSRTCLVWRIDLVL GHIDGADNVEGEPDGVGIDLGPDHDHDDGKVNHGG	Two Aspergillusd Asp f 7 proteins with matches of 37% ID over 80 AA by sliding 80mer window	Two Aspergillus proteins with matches over 35% ID. BLASTP 100 matches of > 33% ID to segments of diverse proteins in fungi. No concern for Cross-reactivity.
136	>EAA28623.1 predicted protein [Neurospora crassa] MAPFTMSRILCGLLLFFLGTFALLADTTKTGSGQLSKAETRRLAASATATVPVATPAPLVVIGTRTTTVSTIAI TTTTALARAEPTPSNVVIVAPAPTTVTAKPEPAAPSLLHAAPLPDDPFRLFHNDDNSLLSCYSSGRQGERWK FIESIDNFCHALDRESLSRRIPLTGFRQHSYNWEELWVRRYTHYDISLDVKPGCEWEFDSYECGQYLRIPVD MCDMEMENDKKGGEVQARTGYGDRDVQNHVWKGDEVLKQYGEARLGDLEKKGMSRTCLVWRIDLVL GHIDGADNVEGEPDGVGIDLGPDHDHDDGKVNHGG	Four allergens from diverse sources with > 35% ID matches, from From Tyrophagus, Davidiella, Alternaria and Aedes	AOL has few matches over 35% ID. BLASTP there are 100 matches to somewhat diverse fungal proteins with more than 70% cover over > 200 AA. No concern of possible cross-reactivity.
137	>ESA43749.1 hypothetical protein NCU16303 [Neurospora crassa OR74A] MKFLNLLARSWWSLPALAHDFSLPDRQLLRALARRQHQPPNGTSLSELRALGLDESPHEPLHIRQTTTGRC GANYGRCPDSLCCSEYGYCGDTVDHCYPGFDCQPAYGVCGWPRPVATTSTTTTSTTVRSTSSTSTTTTSIT STRSSTSASSFVPIPTGIITTNGQCGNSTICPGITDAGWGPCCSRFFWCGSGPEYCGAGCQSAFGLCEDDS GSPGTTSPSTSTSTSTPSTTTSTRTSTSTSAGPTYTLPPGQVPSTDGRCGNGQNCLGSAYGRCCSQFGWCG DGDQFCPYIVGCQPEFGYCDPQPATF	Five allergens in AOL with matches of >35% ID to this protrein by sliding 80mer window, up to 37% Identity	AOL five proteins greater than 35% ID over 80. BLASTP ~ 100 proteins in NCBI protein with matches of 35% ID or more from diverse species.
138	>EAA28982.3 efhand domain-containing protein [Neurospora crassa OR74A] MTPKYPTLTPEHIAQFREVFDIFDKDHTGDITAEELGVVMRELGLNPSKAELEDLVNEADTNKDGVINFEEFL NLMSQSVKETDSEKELLEAFKVFDKDNSGTISTEELRAVLKSLGEDMTDADVDEMIKLADKNGDGQIDYAEF AQIMK	30 Protein matches of >35% ID over 80 to a wide variety orf proetins, Cup a 4, Bbla g 6, Olea Juniperus, chicken and flea	Five proteins with matches of chitinases with >35% ID over 80. BLASTP over 100 matches with > 25% ID over 80% of protein lengths, diverse fungi. No concern of cross-reactivity.
139	>EAA33858.1 hypothetical protein [Neurospora crassa] MVGFSFGLKKAAASSKPAPAKRKPTTFGGDDDDEDTTAGDGQPKPIAAVEIAELDGFDDNTSTPLEAVDE DRKSKKKSKGLPQPPPPISATTTTSSSSSSNKKAPPPVAAAAQFGDLSSALESRKYAQAAATADPSIYDYDAV YDSLKAPKKQEKEADSKEGKKRPRYFDALQKAAETRERDRAIAEEKRLKRERERAEGDAFADKEKFVTEAYKRQ QEENRRLEEEEKKREEEEAKKNKNKGLTDFYKQMLEKEEQEHAAKMKAVEERVKAGPGEAAQQKNEGEE DPDAEKSATERAKEINAMGGNVIINDDGEVVDKRQLLKGGLNVAPKKKVEHQQEKARQAAKPAGASGPA KGVFQGGSKQAMRERQTRMLEAQLEERLKRAREEEEEERKKVELVSKSRKTEADISSAKERYLARKRAAEE AKKKGLEEGGAP	Nine proteins from AOL matched this N crassa protein with >35% ID over 80 AA by sliding window from snail to oyster to scabies to HDM to mosquito ane three others	Nine matches to AOL tropomyosin proteins with > 35% to ID over 80. BLASTP diverse matches of >49% to > 50% ID to 100 many species and diverse proteins. No concern of possible cross-reactivity.
140	>EAA27100.3 kinesin [Neurospora crassa OR74A] MSVRVVARIRPLLKKELDKDVIVRAASTDEGKPFTIVKIPNPKNETEEFSYVFNSVYDQSCSQEDLFNAEVYPH IKALFQGLDVTIFAYGVTGTGKTHTMRGGMKMDERGLIPRLLSNVFRRGKKIEKDSNGETTVDVHLSYYEIY NDKVYDLLEPPEMRTPMGLPLREKEGKTFVVGLTERPCDDVTDFERLYVEANNNRVTAATKLNASSRSHAI LRVKVTQTTGDMVLESTASAIDLAGSEDNRRTDNNRDRMIESAAINKSLFVLSQCIDAISRGDKRIPYRESK MTRILSLGQNNGITIMILNLAPMRSYHLDTLSSLNVSSRAKRIEVREIENEVVYKQPHRSHSSTSFSGLTNGVL APRQPLRPIGLGTQNSYTGSAPALARSSIDRAAASGAVIEKIEKPSKLFNVYADRASAHKATASMGGGSSSR LAGPPQANTSQIRQPLSLSGGLASRRSMTDTTPASSSSTETSALRSGLIGTGASKLARPTGLPLPGSVSAGVS RQNSSSSGSIQPPQQTSKSVDNTPILTLSAAQIEAMVEKKVAEILAARAAAAAALAPQTPTPSTPRSDNHHP PGSEQQRPKSSEPRISEEVQRRLEALERRIEEQSMSTSRSSSRRGRGGRDEKSAGLQLLLEARKAKEAGQLEE ALGMYEDALGFFPGQRKLVGKIEKLKLKLGKISREDYEVGAQLRDEEAGSRQGNRVGSAIQQSRSASVTSG RRTAMTGISSTDAEVEDLDDDDMEADVEETPEEAEARRRRLLKSRGRSATLGVGISSRSRQQMYSNTTTD TGSDYDDRSASNSDPEQQSSSQEPSPRTKQLLDIVNSRDTELIKSLSGFGQKRAQDLVDHLDDTQGPSGKVF	Two legumins each of pecan and walnut have matches of >35% ID to this protein	AOL of four 35% ID over 80 matches to legumin proteins. BLASTP 100 Matches of > 50% identity to 100 diverse species of fungi and plant proteins. No concern of cross-reactivity.
141	>EAA31445.1 predicted protein [Neurospora crassa] MAQVYREARYSRDSSPSGDEGYRRSSSRRYKQAPSHSHERVYEREIDVIDDDRQGARLDGRFFGRPTGGEL VLDRRDDRLYPDRPRSTAGQGSTYVERRYRETEDWDGDNIPDRERTVVEKRLVTHDDDDYHYRHDSSRTR DNDGWERRSYYDAERDAEVRVERKVERREDGSEVILERRIREHIDHDHGADVEIYRKETEYYEPAPQPPIVI RQRPAEQRIIVQEAAPPTVVLRERRDDFAPYVVEETKEEYIVEHIDDHPHSHSHSRHRDGHHHSHSRSHH RHEDDEYYTRVSRRDERRSRSRSSSASPHRKRHIAEGALAGAGVSALIASRRDKETGEVDKHRGRKIVAGA ALGAIGTEAVRRAHSAYKERHDDSDDERHHHRSRSRSNSHSRIKTGLGIAAVALAAAGAAKYYESKKVEKE EAERGRSARRYSESDYSRSPSRKRSKSRAGSVAKAALGTAAAVGVVQHYRHKRSKSRHGSRSRSSSSDRSG HHSKLKTGAEIVAAGVAGAAAKKMYDKHKEKKEHSRSRSRHVPDHSRDREYYDDDDDDLDHKYARRERVV SRSRSRSQVRSALPSSSSNKNNHARFEGTVADDPEFLGLVEYGTNPVPVQNEERQQQSHSKRKAALATAG AAAVAAAAAATAAAKHERHKRDKEPPPTPQLLSAVDDYDDNGIATGYESAAEEQRARKEERRRERSMRR RQRERERDEERGGALLVPRTREEVEEEVGYYSDSEDSEAERMRRRRAKSRDSRIERERKESRSPEKKPARSK SRLGRLAAGAAAAGAAAIGIKKMGENNKEQKEKEREEKKEKERERERKRRDREIEREEREMGLEERRSSRDS DRERMERQRERELERRRYEEQTAPSDPYYKRRQPSPPHASGGYPPVPPTPPAIASAAASVPTAPPPQLQPH RLSNGFTQLPNINFTDVNNIQTPYPTGPEAMPMPVRGPAPVRQQPIQQPQQRYEPYNPREYVASYSPPPP GPEVPSVLVPGKGASAAAAAQPPPASASQGVPSPQDVPPALRAPQGVPASLMVGAPSHLSQSQSQSVIGP NRPEEVSIRSSRDLPRSPTTGLGDERMREGREKRHRRRSMHMSRSRPRRSRGAGVVDVGADSGSGSGMI REKDGLSLTTALHPPTPTDSSFSSSSFSEPESPHTPSSTPKEKSVTFIPLSPKSSQTLQRHHEEQMAKETAKRITS GSGVDPDKDTSDISDFEDRLDRELNALVPAKYRSSSSSSTTPVHVPESSSSSNALSRRDRSPSTRHKDDFNTDS DATLEILPDRFTPDGQPLDSRDPRDGKLHSRRGEFLYHDHHGNGLKQIAGTGQWGVSGTDAQAVDRIVRK	Identity matcches of >35% to various lupin, wheat, legume and walnut proteins with modes identities	AOL, >35% ID to 17 conglutin proteins over 80 AA. BLASTP Identity matches of >35% over 50 or more AA to many Fusarium proteins and others. No risk of cross-reactivity.

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142	>ESA43350.1 hypothetical protein, variant [Neurospora crassa OR74A] MGAPPDKGNLKSPKRVSFQQGLEKDVQPLPLKSALRKRPSFQEESPAQEEPTSPEHYPAFPPADPGVSTSSQ QVFTHHTGPGGIQADHKAAPYPPSFIPASPYQQLQPWQLGYNQQTAQCQTVIPYLPTTYQVNMSQYALA PANTGVHFQPQVGDTSTGPELHYYTPRHDGQLGLQMPVQQAAQYMATGIPVPMQQVPGAAPPGYIVQ QPVMPQPAMQPVLVQAQPVPGQPMMMAQPQPAYAPGATVIVAGF	Twenty 1 wheat proteins and one barley protein with identity matches >35% over 80 amino acids by sliding 80mer	22 alignments to Wheat glutens in AOL with >35% ID over 80. BLASTP 100 identity matches of >35% to various fungal proteins over at least 80 AA. No concern for Cross-reactivity.
143	>EAA30492.1 hypothetical protein [Neurospora crassa] MVVQQHILNWLYSVLTSEYHDVNRTYNDVAQVLSHYPSLSPRTDVHTFPNGASALLVHLSGTLPVVFRGTT YRFPISVWIPHAYPREAPLVYVTPTEHIMVRPGQHVDPQGQVYHPYLAGWSTYWDKSTILDFLAILRDVFAK EPPVIARPPPQGQVRSPPPQQQQQPQPPQAPGVPTPPPVPPLPQELAARSPVPVPLPAQQDGARPPPPPP KPGAPAAAAPIPQHQPSPAPSYAAAPPVPPHPPHPGRPTSQHGGPGASTTQSPRPGPSRYDAPPPLPPHPT AQQQQQQQPPQPPHGAPYQSPPPVPAALPHNQAPPQPPFSQMDPRRMSTLQQHTPQHYASPPNWQQ QQYPPQASPPPHQQHQFPPQPQPKPPPPPDLLDDDTPASPPSSTPGAGANATTTTASPDAPPPPPPNPEK DALLRQLASTLYTHRQHARAQNDSSLAGLQAQRTAMDQAATTLQAEYAQLSQLSALLTSNTDILQESLRKA DAVIENSKTLKEPDIDELLVAPTVVGNQLYELVAEERALADAIFMLGRAVERGRIAPGTHAKMVRGLAREW VLKKALVKKIGPDMGLSQ	60 Sequences of > 45 % ID to various wheat, barley, animal and weed proteins by sliding 80mer window	AOL with more than 60 sequences having >35% ID to Glutens. BLASTP more than 200 identities of > 58% from 100 species over extensive sequence lengths by with >60% ID over 200 AA. No concern of cross-reactivity.
144	>EAA35937.1 predicted protein [Neurospora crassa] MPISDLLASITGEKPSSSSISTKDVPTASKRKADDDLRGSAPKAPRTEPATNGSARPNGNVSKPSTARPADRP TERPTGNANPTRPAEKTTGYTGTAQPRSTTKLTAPVSTKTTSTQSKVGGTSSNGNKAPLSRPLVSRPAPSAP VAGSGPPKKRSYAEIMARAQANQPMLSSVGKIQHKKVEKQLTLKERKELKAEEAKKGKKDVRPPTTGRSGV TAGPTRNGTNGTTANRQRSITPSAPAGAKSKTGQNAVEEKKVKKAALATTGYQGTARPRPGATTTKPGA STSAGASRGRGLSGYGASFSRPRRREEEDEELDDFIEYDEDEDDGYGYGRRGGYESLEEDDSDMEAGLSDI DAFERRAFLQARREDMEQFALEKRLKREKERKRAALAKLKSRAGDR	Two matches to Phleum p 5 at 39.5% over 99 AA	AOL only 2 matches to Phleum proteins over 35% ID. BLASTP with 100 matches of >39% ID and higher across various fungi over 80 AA. No evidence of cross reactivity.
145	>EAA36335.1 predicted protein [Neurospora crassa] MAEMVDPNAPPAARDGYDSDGDYDMGYNDDDFDAWFQAGNFEGASNQSSSPGNHIQQCANLARQIL SRSPPPAEPVPHTPYESAVDMEEAPPPSAPIYKPGVPPIPPRPSPTFRLPSIDTVYDGLLAPSSPAREQACLPA QGPAPPPIAPPVPHHEDDVLEVIDPNGNIIVGSGGPQRQRFLASTAAILRSSPVLAAIIMPERHSQVNQQPP PPPTPSPLRSPAAFVIPPEQDRSSLPTLFIPDVEDRVCKTFLLVIHGFLNRVEKSFKSVQLFYDLLMFTHRYGMT LSLQSVAVPWLKRIYHENPLRHDEVAKQLWIVYELGHLKMIRHTIRCMVKTARINKDGQLLGYGAQEGKDE YTQWAPLVHLGLLRDITICRQRVINRLLFEVEQVIERLTSSPPVLPPRDPSDDEEVQNYRARSHDPRNPRQPI IPSDDTPRQLCVSRRPPGRVTHAVNCDASMLGALQRVLRQEGWATMDLTCSPSHLYRRIKKIGKTATEQV VITHTLKGHRACDREGDDKWIRLDEHMREVKAIREDVEELKKRGGMMGESIQDWK	Artenisia art v 5	AOL only 1 match over 35% ID and to one protein, Art a V. BLASTP six matches only but of > 73% to 100 % to N crasa and Sordaria species proteins. No concern for possible cross-reactivity.
146	>EAA35007.3 C6 zinc finger protein [Neurospora crassa OR74A] MTMTTEQNGIDILCDAAGSDLLLSSLDYATNTASSTSSASASASASANHPHPPPIAVIPAAVPPSSTLPPALP DTPPLHGHHHHQQQQQQQQQQQQTAGPPRAKRPKTESLPSSAPAPTSNHVCQICKRVYERADHLTRHLRS HENARQYQCTRCPKRFNRADLLTRHETTHDRDNDGKGRAIIRRSDRAAEACLNCAMSKAKCDDMKPCTR CRLKNLVCETSNKKTPQYRTADGTDAGSVFTPSENGTPIAASASMTPVDGTMSSYGGFNGGYGMPPAKQ STSYGHAQQHHLQHPYPPAHQHPHQGIGAMNDLHLIAGPMMNALPEDLLYPVHSNPTNPWFQDIDFTS WDINFDGFSVPQIDSYSQSPQSTTDTATTSSRPTAHRKTSHRDPARRHAAFKRSPWLWEPADKQDYVRKE TEAGLRNLDEDAVTAIAQSRLPSRPSTLMKKIKIDSGTRDRLFAIVLSQINDPHRVPSFPSLEVLNFLLQAHLVH DEYQCDSWIHSPSLNPAEMLPELLGAIVANGASFIAVPAIWQFGLSMQEIVRTRMNSLFESQNSNTRKLEC LQSFALHLAIGMWSGFKRKTELAEAFLQPLLIMMRRAGVYTAAVYTQADLPSVLPQASDTPEVLERKWRTF INRESYKRLALHMFLHDVQTSVTLQTTPLLSFTELCFSLPSSRDLWKAPSAKAWRDLHLMKRAPPPDRPMPR LNEIMHCPGLLDDFVDFVDIELVNTAVLHSFWGQISAYRYGMRLYQEPSTVASMSGNYGHYSQRNFSNHR EGLKAMHRELYSDAQDFAASVVYVHKSQLYTPVSHRRYPIPFPAPEGSHATSPAPNISSPVSIANSNMPITFE MFMVALHVDLNQLQSYAGKAGEEETRRASAYFLHQDPYSGTGGEGNGRGGTNGGGWVRSTDARYAV WHAGQVFRAARALPPTGLRGFNAMAVYFASLTLWVYGLLGGPNPGSPSLPSLFWGSGEHEMGRGGSG VSGGFGMGHHGQQPFNGGGMEDPRRSSVTVPLPSGHGYQMQTPHQQQQQHPPSQTLPSQQPPPPSH QYQQPPDVPFAILDGEETREIRTFLQTGRGIPALTISQQPPHPSGPSNTMSILNPVVESLLANPFLPLQTACSIP RENFPSLSHSESEPLPPLVESLGTLLKDLGRGSTHGGSRAGSSAGDDEEELERDDDDDEEQDGDRDEGRG	23 AOL matches to wheat glutenin	AOL had 2 matches to salmon collagen and one to conglutin with just over 35% ID. BLASTP identified 100 matches with > 35% ID over 50% of the length of proteins. No concern for possible cross-reactivity.
147	>ESA43087.1 hypothetical protein, variant 2 [Neurospora crassa OR74A] MMAAEVAKDRSDDATHVTSEAEPTIKIDAPDAQNAPLDQSQLTGESATPPAATEEIENKHISDIANEVVTS AEVSVSGGSDNEATKSKDDKPRSSSTVKKPIAFKAINVNQKFLTTKATTPAAPAKVAEKPAATTTLSSTPGSL TPRPRLIAKTGSGSVKSATGANGKTGSAPDPNAVWNKNRPVPPPEPKKYTDEELKKYGIHMASRLQPEDTT KGQANWADIDDDDEDWAPETITWKDGTKIAIPHTEEQPPAPPTPAPAPAPEPEPVPKPVEAIKESVAAEKP KSPAPGHASSPAPGHASVIKPGVLGSGKGLILKGAPEKPTLVAKPPPPPAPVKSPWAPIPKVEKVSPMVVEPP PPPPNHHAPRYPPRDGPQYTGFPPAGPKEIAADDFSRGPWRDGPGGNRELYNSHSGRYEPVQDRRGSM RPEPQYRDGRQPSVLQRPAHNDHHHGPAEPSAAFQTHRTSDQHVPYGHGRRRGSSNVSGVSSGFLNRTK GFEQPLQPPEILNARRESMTAGSDGPGSPRNFSPSGLQHGPRHPHPHPHPHPHPHPHPHQGWPPRVSPAV SHAVPAPHHHHGPDMVGVPPVGMPPVGPPPPVQEQVPLVTDQEIELQKRLMREKVEAARKRRMEEEER EKAAREERIRLKLQALGPAPESNSAKKAAAKEQPASTITEGAAQTGTATDEKAEVKTPPTTQPEKAEQPPN GVPPQILPDSEPLESRQPLWSKQQQQGRYTATTWGSQTSKNVWGPPTNNRTLGNGTFNPDLGTSPPPVS NKPGPGPIAPPSRTTATMATKTNLFPDGAPARLPPIAPPNHSNASTGTGTLSAGERQAKANQWVSAARL NDEAFETMLKDRFAEQDRRRAEKGLTAEDIQPVVKDVWRPTKLDENGMRIEAGPRQTVRVGKENPWAA SQPSQQTQPPAANTSMLGNGGAAPRTSSRFFPSRQQTIAAAEYQRPHSPSPPPPDTETTGHPAFDGDVKH PHVCIPTPRPQVRLPPPSQAREEPKGEERSPAPNPGSPWQARIDNLLGARKPSQTQQKPAAGVDSTSRAAY EHPETSVTVSLTAAMIAEASPTTKDMDEDCFEEQEMGSLPTVRIPTELPEMAWSPTSAPPPKPLHRKFFPLT TSAEPIRIDTSSNGIGSVIRIAFPGTDRHPPFVTAVTIPFSRTRSNPRRGGGTSRGGRHPAAPHNQRGMPGG	15 proteins matched proteins from Artemisia, salmon, beef, fish, artemisia.36% identity over 80	AOL had 15 matches to proteins over A5 matches of low identity to AOL. BLASTP identified with 100 matches over 38% ID to diverse species. There are no concern of cross-reactivity.

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148	>EAA32458.2 hypothetical protein NCU01082 [Neurospora crassa OR74A] MDQQPVSDAASSVEKQQLPTPPPPEPRFGGWMPTVALTGLVVAFLASTSGIVVSILYLAKKIAANENAMLG IAQSFMLFASILSMAYIGYHIRATRAGNTLYGILDTQGRKTLHPVHARTRMLIISATSVWVLTIILLAVGIYFG GGGSKTVLLNMDLFASIMASLALSIECYVVFRVDPPFLLPWLSPWDARIRPRGFDFEENSRSMKVVPMDKF ARGFDASILDRESSPTERIRPKTPTHISPPSSPTPSRPGGPRPMMPAKSDSVLSGSTLHDGQSVDGASGSGQ TLPKPPLATYQNIEPQRITPKAPVPQTSNHNYSNSFETFTNVPLSPTPYLAQSPQPWSPQPALTQTPSTMAS PQAPYPPPPQAPNMSYAEAQQQQQGHYYQQYPQPPHQYQPYNPPRYHYGPHPQVQHVSVQQPPYYHP QYQYHPSQSSTQWAYPQQPTAVYGTPGPGNVSPMSSTPDYRDANSEPVSPLTRQNSGMSAQVKSMPGT ERDGS	47 identity matches to wheat and barley proteins above 35% ID over 80.	AOL has a number of low identity matches to triticum glutenins. There are few matches by BLASTP to proteins with high to modest identites. And a number with low segment matches (39%) to other fungal proteins. No concern about cross-reactivity.
149	>EAA29623.1 predicted protein [Neurospora crassa] MKYSTSFIGAVAAVSQLTQAAPTNNRGTSSNDDGPLVILSPDEVVPIVPISQAVPHHSIAGDSALVKSLNSAL AGLPKPTAWFSKTAKATPVKGQAYVAAATTISETPVIIVFPPPSPVTTLIPFVASFGNAPAPAASSTSSDSSSS SSSSSSSTPLVPTSSSSSSAAATLTSTTASTIGNGTNPITSASTTSSAAPVASVTSTTTSTTTSTTTADAAATTA NGNNGNGNNGNGNNGNNGNGNGGGNGAGNGGAAVATTTTTTATAAAAATTTANGNNGNNG NNGNNGNNGNNGNNGNNGNNGNNGNNGNNGNNGNNGNNGNNGNGGGNGAGNGGAA AALTTTATATATATATVTANANNGNNGNNGNNGNANGNRNGNRANVRRDGLGDGKNGGQQQIY GGIDASKDGRFGGSGHGIYYDGGKVDDGTKQDANAAAASAAAAPLSLASIASSAPAAAAAPASASISSSA PAAAAAVFTTPIYSSPPHSWSTPIHTSPPPPKVQIVSSAPAAAAPSASSITPAAAPALASAAAAAAAPQGAS APAGNSLVAQIPDGQIQVRPLSTPQVGGANSADPQAPSPWASVVTGGSASVDGGRLWKTMGMGLVAT VVGMYMW	Only 1 alignment was identified to a pollen allergen at 36% identity over 80	AOL has only 1 match, to Pha a pollen allergen 35% ID over 80. BLASTP identified only three proteins, all from Neurospora with 100% to 98% to 79% ID. There is no concern of allergic cross-reactivity.
150	>EAA29186.1 predicted protein [Neurospora crassa] MADNSLDRSLDEILAERKPNGRGSGSRGRGNRDNGAANRQRRDRNDYPRDGVRKSFRDDAPRNLDSEW VHDKFEENDRRRAPRRRNSPEPFSDARGSKIRVDNIHYELTQEDLEGLFSRIGPLVKLDMKYDRAGRSEGTA FVTYESPQDASRAIREYDGANAAGQPIRLTLMPSGPRRNPFETAINPRPLAERITVPGGRSRSISPSRRDRDL DEEAARKGIDRYRPGGSSRGRSRSPLPRREGGRESGRRPGARREGGRGGRGGRGGEKPQGERTRNGRP KKTQFELDAFMEDYFGGGGANQFNNAAPAAFASNGAVASGPAEDDIDMGIF	Three proeins, two from Salmon and one from Lupin were aligned with > 35% identity	AOL had a few matches above 35% IDENTITY TO collagen of salmon. BLASTP had 100 Identities of >51% were found to proteins from diverse species of fungi. No concern for possible cross-reactivity.
151	>EAA32153.1 hypothetical protein ((AL451021) hypothetical protein [Neurospora crassa]) MTYHDAMPPGQPYGIYSQQNQNQQPQQQQQQAQQAFQPVAGYHHQHHQQQYVNGYQNGHPQYLQQ SQHSQQPQVPYAQSAYPQAQPTFDASNPVNLSNYSSKPTTSFAHTPQTTTAPVQFVDPSFLQKQYVPPVQT NRILPAPHSMTLPSPQLPLPQISRHNQQIPLQQIQQTTNQHDQQQRQYQKQQQQQQQQQQQQQQRNTSN QHHQQQARQQPYSQPSQPQSSPHVQTQQLHQPISRSNGHRPDERLLQPQATPAERATPRGPGRPPSVAN SSASAQRTGHVETLPLLLCVAEDCFAKAHAAASGIARSMSDSEVKGYHKMVATGLGCLEVAMNSNKLWP RLEARLCLRYASVLIEETTNIMEAETALTRGILVCEKHRFIDLKYCSQFLLMKTLFQRNPRAAFKSLDTHIMDA TMYKHAPWVYAFRFLKAAFHIQSGTAADHHALENLRRMASIATTRDEKAMFVMVMLLEGLSHLNTMKD DWINRVQNCIAQAQKLQFDDAAHIPQLDALLLLLDLACSLRQKSHRDAAQKLSVLQSKLEELRNLPSWSSVS HELLLPIRRVVNDAAPTLSRDTEAVLRRGDGAFDYLVLSALGKQGSFAMAYIFNGIVALYKSTTLGRSSTIWT EAVRLLEDKNSGSGPKPLPDALAHTQWAKSVSNYAQVLIGLQAATLSDWRKVKACLDALGTAQQPEGFLD VLTLYLTGVFKQGTCKLGEALVIWKDPRFAMDRSGLPQNNTSHIISELCILAALNRIWIMQAPAQRNDGET AHLLDFLRPLCEDNPDLDIRITYNLVLASITLDPPLPINQVKQHMKLSLNGAQNTSNTHFLSIALNIMRNKLFE NVVGEQALKSARAGTAQAKKSGNLLWMSVAEGMLAQSLEQQGLKEEAEKTREDGIRLANEARLRTQVE	58 proteins from triticum and one from sinapis, one from almone matched	AOL had few matches of >35% id to proteins, and not likely cross-reactive. BLASTP identified 100 proteins with more than 39% identity to diverse fungal proteins. No concern for possible cross-reactivity.
152	>ESA42520.1 hypothetical protein, variant [Neurospora crassa OR74A] MPSFSSTAALRSALPVLITGFISACANALLLRDSHPLNIHTATVVARRTTRFPTATITNTALRQAFRQLCDRHR HRTTRTRRPCAPTITPYHPPNINTTTATATAHSFIITATIHQKARYSGPILSKLRRDENSLVMAHIISPQSSFGQ ITMQSASLPRRTSSLRSRARRGISTDETEARHIPEEAIATALAHADDLTENRSTRSASTASRTTHRLSLTLPIAP PNPNPSRPIPTSTTTASFPSTPLDTPALTSPADINDFITAIAAQERRVLELREELTRAESDLAQLKKQWATYEA YKKRGERPLRPVGLVPTFQDEEATKRAVELDRRKALLQSLQNQNQPLPENGRRRIFQGGHARTLSLLSPTKP SSDFPGRGDGSENSRNVAFSPTYRPKHQSWAPQSTSQTVGVKGIAQDLRMGLWTFMEDLRQATVGDEP VTGQGMYMRGADGKLSMTPMLKSGTASSSHTGGQDGFRASGLNTPRNRSSIASDWAPAVPTSRSTSPP KKSQDSTADESLKSPSRPAPALMRSKTDASRSPKRFSWTPLAMDSVDDNDWSNWEPTGTATSTRWSGTT VVGDIRSTTSEKRTENDKSV	Three matches to tropomyosin of salmon, an dAscaris, and Anisakis	AOL had 3 matches to with low identities. BLASTP has proteins from diverse species that havev matches of > 35% identity over 80, but it is skewed and patchy sonsistent matches
153	>ESA42519.1 hypothetical protein NCU01208 [Neurospora crassa OR74A] MPSFSSTAALRSALPVLITGFISACANALLLRDSHPLNIHTATVVARRTTRFPTATITNTALRQAFRQLCDRHR HRTTRTRRPCAPTITPYHPPNINTTTATATAHSFIITATIHQKARYSGPILSKLRRDENSLVMAHIISPQSSFGQ ITMQSASLPRRTSSLRSRARRGISTDETEARHIPEEAIATALAHADDLTENRSTRSASTASRTTHRLSLTLPIAP PNPNPSRPIPTSTTTASFPSTPLDTPALTSPADINDFITAIAAQERRVLELREELTRAESDLAQLKKQWATYEA YKKRGERPLRPVGLVPTFQDEEATKRAVELDRRKALLQSLQNQNQPLPENGRRRIFQGGHARTLSLLSPTKP SSDFPGRGDGSENSRNVAFSPTYRPKHQSWAPQSTSQTVGVKGIAQDLRMGLWTFMEDLRQATVGDEP VTGQGMYMRGADGKLSMTPMLKSGTASSSHTGGQDGFRASGLNTPRNRSSIASDWAPAVPTSRSTSPP KKSQDSTADESLKSPSRPAPALMRSKTDASRSPKRFSWTPLAMDSVDDNDWSNWEPTGTATSTRWSGTT VVGDIRSTTSEKRTENDKSVNTSQVISLU	Three proteins of tropmyosins from salmon and two parasites over 35% percent over 80	AOL had three proteins with poor alignments. BLASTP had 100 proteins with up to 37% ID and over more than 200 AA. No concern of possible cross-reactivity
154	>EAA32883.1 predicted protein [Neurospora crassa] MSKNSSAYGQAAGDTDFRKKYDLDEYAAKARDREEAEKEERKARWEAKMAGKKYYKPLEGHETLTTARS GHQDFSKLVGTTMLVPAGAGVGKRGRGAGIYCEACDLTFKDNLQWIEHTNSMQHQRNTGHTGEVRKAT AEEVHQRIEQLWEKLQERKREQVVSLQERLEVRKVEDEKEREEKRRKRKEVEERKRLEKEEALKAKTDYGED VRIEGEHDFDDMMAAMGFTGFGVPKK	One match to tropomyosin of a snail at 36.4% identity	AOL had 1 match of >35% ID. BLASTP has 100 matches of >66% over 80 or more AA from diverse species skewed a bit to some species. No concern of possible cross-reactivity.

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155	>EAA34404.3 fungal specific transcription factor [Neurospora crassa OR74A] MFLDRHLPRIHPIGDLVETVPNQAAFAGNCLLSKSSTMAAASSHNNNNKPSCPRSPVDPSTGTPLFDESPVS SATSAKPHAPQQPYLGGLTSTTPSATVPGTTPASSVPASAPRPPSPRSLPQPPHPPRISTLASSSTENLLGHQV SHQNSSFHSYTPATTATPFTMGGRDSLPSNDSVSGTPGPSSGHQLPSSSSQAQKRAYRQRRKDPSCDACRE RKVKCDATDTTSCSECSSRNVKCQFTKETNRRMSSIKQVQDLEKTLDKLKRENLNLKRALETQGHGVHGHV NHSLGRGQAHMPMDRMDIDSGPVVGGMGIEQMLALLLPEIGAEPKPKKRPVPIPALAQARSNIRIPAKGV WKPPAQYRHSPAGPSIFDYTPRPELPSQQTTDHLMRCYYSSAHTMTPIIHWPTFRQEVDNLYRPGGLTQH VPTSFLAMFYAVLAVGALFSPDPHRSYRAAEWIEASRKLIDPWGNDFVLDHARSLVFISIALNELNLKSAAW NWLGNAVKVAQDIGLHSDMGSWPLIEKEMRKRTWWSIYILDRSLSLELGRPMLIDDVDCDVPLPMGVDD HFIRDNGMVVPNGAEPLTHSLLAITHVVRSYTALGRLLSLSGNEGPMLHNRNEFMSPAIPPARLATFDQYF ASCLRTFPPACDPSSGSPLAPVLLNPLIYLLHARLLLHRQNLSPQCPPDSRLLAVEQCTNIALETAAYLKRMTP TLPEGATALTTMHIFRCALFLLLIGHLDQALVCIRELAAINTNREVAVPCGRYLLFFVGVVGQKRSDYLQRIM MTGSPEPAPVRLRNALVRDEELIAYVSADLQARPDTAWIWAGGEQDHAAAAAAAAAAGRVVGSTSGSS HGGANGLGTLFSEEAKMGLSKEEINEWNVNKGWTRLDEMVRGLAHPLAVPLAQVPMVPSTSSQTPTSAT RPTHSLASTPTSATAPPPPYSQGPPPPVTVSGPHPPPPPPVHYSHHAPPPPPPPPPPPPSARGRQMPPIQP GPSPQQPPPPASWGHPTSGPTLPPPQQARSPYIPPHAHHPQGPPPPAQPPTLPSISPAGTPRIKSEPGLPSLP PLGGDRDDKRPIGLGIGGGGGGERGPASAISPSNRAAVLQSSVGGGHGAGSPTLSVSRSPISATTTPTTAM	31 protein matches of >35% ID ove r80 AA mostly in wheat, but also fish and ragweed and beef.	AOL had 31 proteins with >35% id But BLASTP has with >50% ID. No concern of possible cross-reactivity.
156	>EAA28411.1 hypothetical protein [Neurospora crassa] MAEYWKSTPKYWCKHCSVFVRDTPLERRNHESTAKHQGAIKRSLRDLHRSADQEEREKERARREVERLNG VVSGSGSTTPRASGSGSGGAGQKGGHKPGGGGAGGAGPTGANAAAVGLSEADRQRQLEQLAELGVNI PTELRGSMALAGDWEVTNVRVVNEDAEIAAAGQNAGAGGAGVIPVGAEGRAVGVKRERERTEEEKEQE EAIKGLFKRPKKWGVGSRVAKMEEDKELEELLSGGIPLKKEEKGAVKTEEEQDVKKEDGDEQDGEVSVKQE EDGVEGGVKKEENADAEEDSAMSKIPAIKSEPNEALSGIADEVTPPLTTGESGATAAATDAVPAVVFKKRK PKNVRQK	Three proteins from a fungus and from salmon have identity matches above 35% ID to this protein	AOL has 3 proteins of >35% ID. BLASTP has 100 proteins from diverse taxa, many are fungi have ID matches above 40% to these proteins. No concern of possible cross-reactivity.
157	>EAA28038.3 hypothetical protein NCU00388 [Neurospora crassa OR74A] MDAQNAVEPASTKPAIRAASPKRQGSDSDQPRSSTVIRTSSTSTVQSTTARFDPIFRNDKNDRDNKHRINN NASKAASNIEDHDDSLTAEGNSDAETIVLPGKDGHHSPVKVRKPIIKQNDNRSDDDDVVSSHRKHANHNSS RQQQQQQQQQDRESDRGDRSEKPDRSVAVAGNGPNGSNEGSVGSSSLGALGAKKRKLPDKAKAKDGS SGLSSAPESPPQRRRRSSNGHSKSDSEPAPVDSLSKLPAQSTQQDKPVPPKSLDNNKVVPNKRKHPKAESDD EAEPPKVRRQRTSGSGLDASRRPHPPPPNKSSSHHEPHASTRTRSVSPHARAHRRSISTQLPGHTAHGLSLK KRRVPVPLHSADYFSDESSERGSPHPRSSKLRSLATPAAAEFTHSPAGRMAPHKKHLDAHGQTFLARACAK GEYNVAKQRLQERPEDIDVADYAGNTPLQIAAINGFDDIVKLLVEAGCNLDCLNNEKDTPLIDAVENGHYE VVKILLDAGVNPRKANAYGEEPIDRVNEDHDNADDIKRAINEAKQRMGERRPTSEDHHLDHATDTRSSHG PDSPRQSPASASINPSSGRRAGTVRATKTSNHLLYMPMDDKTLRAAAAKGDEETVLRILQVRDQFDDPES MVAAARGGHDLVMQLLLAIGGANPDPQPISTNEYSTPILAAIGQENIKVIRLLLDQANFDPTKKYKGETYYEI ARKRRGPNWMQEEHMLKEAFDEYKKKPSSNAKSQRLSNSRETDREPRRTRTEIKEDASKSHRRKASSPAKE AKKTGPSKVPASPREKRRSDSVATHQEDQTSPKRGPGRPKKDDKIPTIAISDREASPAGRVTTKAKRADHDV AAASSEGETPKPRRKLISGRELKGEREKQRRASVTSNGSSFRDQPSSPRDECEKPQMMEKYHDRTKAIRRD ESRDRSSVSGESSGKRHRASATPPHPGSTEKDPSEIPSKKRRLDVEGKDRRLKPNSAEDRHLKPSVSRESSLA APPDGRVRSRSRDDEDRRSTSKPRKSESTSEHVRFDSGKPTIPEPSIHVKSEDGEVEMGDADHAAQEESTR QMLEKRKLQEIRKKQAEMESEARELKRKEEERKRKDEERERKRFEDESRRAAQEERQRLEELRKQRQAEED RKRREEEEERKQREEEEARERERERERKERKRREEEEEQKKKEAAERKRREQEEEERKRLEHEEKVRRERLE REAADEARRKREEERRKREEEERQEKERREKAMREEAERKRVAAQEAEERRIRHEQEVIRIANLPPALRWL EGAANPRIPQIAEKFSIMQGVRYDCIDPEATGTPEGREQWLLNTQIALLLGEKDLRLSKYNSWTRIPASKIAK RVLWQLESDRYALTSPNLYDLGKELPGYYGTDDTDSIVYRVTQKLRSAAWEKFAALEMFFVKASDFLRIIPT MPHLRDIRLVMAYRELPENETYFRDFRPLEKWKKDPDAGRNHGFAPGSKYFVNGQFIWEERPKVGMVSK MPFEEERVPRRGLAPVRPDDPEYAELCRKQGLGHLLGEAQGSHVLPNGHRSASPISTTSSSNRVNGITSPRA	100 Identity matches of >35% identity over 80 to diverse proteins and species from legumes to crustaceans to HM, fungi and on.	AOL has 100 ID matches above 35% ID, but insignificant. BLASTP has 100 matches with more than 40% ID, most above 50% to hundreds of AA overlap. No concern of cross-reactivity.
158	>EAA30341.2 hypothetical protein NCU08184 [Neurospora crassa OR74A] MAHISFIPNPKMDPDSHATKRRRVVEDTGTYSAEYQHQGQHHYIDAKTAKTDPVHPPSTSGIPSGDFQFTA FQNTSTITGLSPIRFEDFLNEPTGETPRPEEPEEPGPNKKEDKAEEDVSVRERHNSIGKRYRNKLNEQFENLE ALLSQQNPEEDYNSSFSPTQAKKRQRGRSINKASLLEMAKVRIKALTEQREMLIAEVEQLEKELAEEATKQAS GSRHHF	One match to a Fusarium protein at 35% identity by FASTA >35% over 80	AOL has one match over 35% ID to Fusarium. BLASTP has 100 matches of over 35% ID to diverse fungal proteins. No concern of possible cross-reactivity.
159	>ESA43421.1 NEDD8-activating enzyme E1 regulatory subunit [Neurospora crassa OR74A] MTTTETNGSGQEASHSAAGISADEIALYDRQIRLWGMKAQEKIRSANILLITMKALANEIAKNLVLAGIGSL TINDHAVVSEADLGAQFFLSAEDGHLGQNRAIAASASLQRLNPRVKVIVDTDDIRTKHSSFYSSFDIIIATDLD ADTLNVINTATRIHGRKFYAAGSHGLYGFLFADLIEHDFIIERQRSNLSTTLGPETKTRSIVSVAPKEPDNKDS DIELVTKRELYSTWLLASSDASLLPQDILSSPRRKRAVTPILSCLRALWQFTSTFGVPPTGPELLTNHTALAAFT QMCSDKHKALGLPAETLRAELLRSFLQNVGAELAPVAAVLGGQLAQDVINVLGQTQQPIQNFVVFSGESM EANVYALHPREGELGRGLLPVTMGVIEAAAEVLEKEGQTTDLMGLGGQHLGGGQQQQQQQQQQPSSQM EGVEQQQQQQQQQQQQQQHANGVSTEQETGAGQQQEQQGSGAGNA	16 proteins with identity matches >35% ID over 80, mostly to wheat, and two to mustard.	AOL has a few matches of >35% over 80. But BLASTP has100 matches of > 60% ID to many proteins from fungi, snails, and other things. No concern of possible cross-reactivity.
160	>EAA30644.1 hypothetical protein [Neurospora crassa] MASTSPATTNGDVAPANYDLVLKLAPHLDRHMIFPLLEFNAGRLKEDETDKAREILAAKYALLKKTNMTDY VANLYCELEGLKEPPAEYAERRQKVFHQLEKYEQETAKITELLQRDDVVNNLRSDKVANLEFLKKEHDVTID MVNALYDFGQLQYSCGNYADASELLYRFRVLSTDNDKVSYATWGRLACEILTMNWESAMEELQKVRESID TRLANNPLAQLQHRTELVHWALFPLFNYDKAREPLLDLFFNAGFINTIQANSPWILRYLTVAVITNRGRAKN AGVHQKQMKDVVRIVKQEAYEYQDPITRFVHALCIDFDFEEAQQQLVLAEEVLRSDFFLLAHADDFVDSAR HLIFESYCKIHARISLKDLSARLGLNNDDAEKWIVNLIRDTRLDAKIDYKEGTVVMNHPPSSVYQQVIERTKG GFERTQVLTAAVAR	Two proteins, over 35% identity over 80, one Blatella and one is Chironomus 35% and 36% ID	AOL has 2 proteins over 35% ID. BLASTP has 100 matches to diverse proteins from various fungi and others >35%. No concern of possible cross-reactivity.

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161	>EAA36071.1 hypothetical protein [Neurospora crassa] MTVSTKVFSLEGKGLKLDTAEDLEAHIAPLRAMDDVEEVRLLGNTLGVGACKLLGEVLATKKTLRVANFADI FTGRLLNEIPEALSSLLTSILNLPKLNTINLNDNAFGLNTQAPLVAFLAAHVPLQHLYLNNNGLGPHAGILIAD ALSELHAKKEEARKQGQDVPYLETVICGRNRLENGSMTAWAKTFRLHNKVKQIKMVQNGIRQEGISHLLSE GLNHASELQILDLQDNTFTLKGARALAKVTPGWTELIELGIGDSLLSAKGGVLLSEALRKGKNKKLEILRLQYN EITAPGIKGLALAAEEALPALKKIELNGNKFTEDDEAIIALQDLLEERKERFGGDVVAEDEWGLDSLSDLEEED FEFFFFFFFFFFFVFFRAFKLIKFAFAAQFFPVVQVKDKFVDFLAQKLAKTFL	53 ID matches of > 35% ID over 80 by sliding 80mer window. Poor matches to tropomyosins and similar proteins.	AOL has 53 protein matches of >35% ID, but BLASTP has 100 matches of > 78% identity to widely divergent taxa and proteins. No concern of possible cross-reactivity.
162	>EAA28582.1 predicted protein [Neurospora crassa] MASNLDSSSYLSPSMIGSGIMSSSLSSLSSSVSSARHPSSSNISKAYRQASTLFLTRRLPEALSTVLPLITPSSSEF ATPGDVASGAAAFDPAPVAKASRSTRIKVWSLYLTILNAILELNSDEGKDAFGTQEWRALCHKVREGEVW EEVVRSGYHGSEGDVDADVVINLATLLLGHAKTQTLNQKRLENYLAAARTPNLDLTDRLSGPSGPGGSSAS PARRLRSSSKSGVATGHGADTPRDLNARVKILELYTLHVLPRNDEWACAREFINMSAVLDDERKEAFIQALD SLKEDQEEAERKAREKEDAIRKDIENARKLRAENEERERKRLEEERQKREAAGVNASTAASAGSGPTTEGES GVEAKGTGTGTTKKPNLKKKASALKNGGASSSSASSKPARPSRKGASSPTATKTTGSSSSAVTGPGMGTKA ALILNNIRSVLDQVMTAFHGNPFLLYRTLAFIIGFLLMFSKKSVRERITRVVQQGWGKVKATAGMGMKVSYY	5 proteins matches by sliding 80mer to Nicotiana tabacum, Anisakis simplex, Helix sp, Haliotis sp and turbo at >35% ID over 80	AOL had 5 matches of >35% ID to diverse proteins. BLASTP has 100 matches of diverse taxa and proteins with >49% Identity. No concern for possible cross reactivity.
163	>EAA28124.1 hypothetical protein [Neurospora crassa] MSLSVRFAAQCAARQLRASTRASSSLLVQKRFESTAAPAANPKIAAIVDQISTLTLLETSELVSSLKSRLNIPDL PVGGFAAAAPAAAPAAAPAEEEEAAPAAAEKTLFTLKLEKFDAAAKPKVIKEVKNLLGLSLVESKKFVESAPK VMKESVPKEDAEKIVAAMKELGATVTMD	One match of >35% ID over 80 to Manihot esculenta Pt2	AOL has 1 match of 35% ID. BLASTP has 100 matches of > 68% ID to various ribosomal proteins fungi and others. No concern of possible cross-reactivity.
164	>EAA32207.1 hypothetical protein [Neurospora crassa] MATVSRTATALATPPATSHGNKFTWDSASVPVHSEKPVNPKRSSINNENGYPFGRPVLASQKRNSTLLATH NTPPMDPLTHDHYTGDVADDARFTRSTRDGGSPADSLFDPETDESKWIHRDKLAQIENEELQAAGFVLPV ARDNRARSKSGNRLKRDQSQDKLSGQARSIGGGEHVGSRSRKNSSATQDWDKRADDGAEHADSTSNPG AKVTSRIPVPRTKAYPTTPTDEKAAAFGRKRDSSPEEDKEKIAYPKPRGRSGSTGNALTKAANGSDARPVAK RADTSPMKSKPAAGAKKVSGKAATATTARPRTRGASAKDSTGARPTTRSGDRELSPTTHKPMEGEPPW MVSAFRPDPRLPPEQQLLPTVAKRLQQEKWEREGKVGNVYDKEFRPLTDEGFLEPPEHPIVAPEHEPAENE NENENENENENEKEEEQEKENEKEQPQADWPLKPAEPQCPQSPPPPSLHSLQSPRSPAPVGRTNSYSTMP KIADKPVLTKSPSPKNPPQRPHPSEVIRVPEPPEDPPQKKEKGGCGCCIVN	Three diverse proteins over 35% id by sliding 80mer	AOL has 3 proteins of >35% ID over 80. BLASTP has 100 Proteins from diverse taxa with >35% ID matches from a variety of fungi and over 300 AA long. No concern about possible cross-reactivity.
165	>EAA32303.1 hypothetical protein [Neurospora crassa] MLLNKLLASLSAFSLVAANTITFVSLDEHNRTIFSKHKIKCTNDDHGICNDVSLADIAPVDVPGLAQINVELPS GWEGNFYSVPGGTPDRTGMLAEIRSQGFENGSYYDVSALENPNDNVGVKQFWPAHDPNAEVSGCIQFP CPYTYYHPNDLQTKPATWSDKFYCTLGNADLSKNPHLAQWHMVYDHETKKWAPLSA	One protein with >45% ID by sliding 80mer 35% overall to Stachybotrys fungal allergen	AOL has 1 protein with a match >35% ID. BLASTP has 100 Matches of >35% ID to diverse fungal and other proteins for at least 100 AA. No concern for possible cross-reactivity.
166	>EDO65476.1 hypothetical protein NCU10687 [Neurospora crassa OR74A] MKYSASLLAFAASAAATFPWHNAPPFTCPQNTDNKCTEQQKTGFVFDDLSLGPFSQYMDFNFNGWVAG SGFGGRFGKRTFGGISGVCGSDHSKAPSFSAGGEFSLGSIHITPEFDCDLEFHYGMPDGSTCKHRNRCSKD GTNVVNKQCGGATNVTIVYPPQPEKPKPSCSVIVSTISFDCSTKQSTVPPKTKTTKAAFTTSAAATVSVPTVP AEITSTSAAPVASSSAPAESVPGSQTSTAPAEITGAPSVPVESSPAKPSESAPISEVVSAPPVTHTIVTSFDSTS TVFITEIQTITSCAPTVTNCPANHFTTTVVTIATSTTVSAVTETRTTVVSAISSAAPVASSEGPGEIVISTSIGDII SAPAGSTSSAAAVKSSAVASSAVVSSAVEISTGVVVPTSAGSVASSSAAAVDTTSSAAPVSTTPVKPLPCPGV VPSCLNTFLFETGCTDNSDAACFCPNALFVKNVYECIYAHGESNSIISDAITFFQGICAPYVNTNPGIATGVPT YVTTTAAPTSVVPVLTTITVNLTTVVPCTNEAGSTIASSSTTVIVDTTMTVPQIHFTSTTDDVAIVPAPTGVPL VTETEAVPVVSATATETTETGAVGVSTSAAAPVNSAPAVTSAPSVPIGTAVGTGGFVRPTSSVISPPIVVAG SGPVSAGLGLAVAVFLGALAL	Two proteins from diverse species HDM and Aspergillus have just over 35% identity matches over 80 AA by sliding 80mer	AOL has matches of 2 proteins over 35% ID. BLASTP has 100 taxa and proteins with matches >35% ID over at lest 200 AA. No concern of possible cross-reactivity.
167	>EAA27581.3 deoxyribonuclease tatD [Neurospora crassa OR74A] MSMRLSVSRPSLHILARPPILSSRNCNITAPLTTMASNSTLAGNGYKPRYIDIGINLADPIFRGHYHGKPRHP DDLAGVVQRAIDVGCTKLIVTGSSFKSSRDALKIAQQFPHHVYTTAGIHPCSSSIFSTSHHMHHDESGSESEQ SPAAPETETAADSASTPIPICADPDPDAPQPEDPSLIDHVRTPQLIASLSDLIDSNRSPKGGLIAFGEFGLDYDR LHYCSRTIQLHSFRAQLSLAASLTPQLPLFLHSRAAHRDFVDCLKEAFGPNLERLEKGGVVHSFTGTLEEMQE LMDLGLFIGVNGCSFKTDENCAVVKQIRLDRIMLETDGPWCEVRGGHEGWKYLVKYHARAREVREKAEEE ARKKKEEEEEAAKALADVSINGNGTEVEVGNGGTPDISGTSTPNNPSGQQQQQPGQKRERRKKQPQPPP QPKKNKNAKKESDVPERFKVVKKEKWEEGAMVKGRNEPCTIERIAIIVAEIKGISVEEVCEAAWRNTVKVFG LEE	A few matches of short alignments to more than 6 proteins by overall FASTA none by sliding 80mer	AOL has no matches > 35% ID. BLASTP has 100 alignments of >50% ID to diverse taxa and proteins
168	>ESA44044.1 hypothetical protein, variant 2 [Neurospora crassa OR74A] MTTPTASGNPTTETVHTISSPLDAPLEGDVHHPGLGEQESQAEQSQQPNGGQQQKQMHREQHEEHTEE QQQGQERHEEQHEEHHQEQCPDQVHEQHQERQPEYTGPAVLHVPTATNGIVESHGHSPRARKDTNSSIS TITSAATAATSCSIGSSPSLTPTTALPTQNIFSLKDGNAPLSSSRNRRRTGPLAPEARGKAALIRKQGSCANCK RKKIGCDARHHGMTWEELAQKFPNSAEMQQLEAIVPPTPNLHTQESRKLNLSTPSPEFMDIDSSPTQQQIF SSFSESRVRTPLPSKPRQDRASTVSFPQPNDGLSNGNVLTSNSHGATVRASEGFARGRYRRISALFLRWRN DEDPALKNSMDEFREVLEEYYDCSCQTKIIPSANQNHNVSMWVLDEILQFLKTDTEDELKVLYWSSHSYLDA DRQMILASSRSSEAQPASCVRWSAIQALLDHASPDVVVIMDAAYYPNQYRFMRRTNRSLELLAASTQANP ERGVFTRALSDQLRIRAHLKLLGGISIADLHARVTTSPPLTMGARVQELLGSGVGGMSLSPPLSSCPPVPLYL QFAGSPRTSSIILAPKINRELAVMAGDDEASGRKGGTGGLIYTFRVPAGANQDIWEEYLSTLPDDIKGRLDF VGAG	Five alignments of >35% ID by sliding 80mer search three to conglutin two to HMW gluten of wheat	AOL has five alignments >35% ID. BLASTP has 100 alignments of >33% to 50% ID over a few hundred AA. No concern about possible cross-reactivity.

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169	>ESA43189.1 hypothetical protein, variant [Neurospora crassa OR74A] MMAKQVRYGAVQPLQIYQDDLYDQTTPVISQAPMPLAAKPPRRPLQPANSNSVMLRPPSTMAPLQKSPL KLANARISDSSSAPTKPPQGQKKLSNVQMPPPGALAPSTDSLHKQQPMSRFKTVASKPPAQDLTNLQFVDQ SPQMTIFPAPTQFNLPLENFYQKPSGKRVLTDSPTSDKESRPAKKQNTGEPTPVPEPGSFSPIIDDGTKPHHS YATLIGMAILRSPQRRLTLSQIYKWIAETFSFYQLSDSGWQNSIRHNLSLNKHFIKQERPKDDPGKGNYWAIE PGAEQFFMKEKPSRKAPPSAENLPVMSTRLEPSQPPLGVQPQEPNSPSSRANKPQPQLSQAPSPRPQPPQA PLPDEPVLPPQPPTTQAQLAPRPPSSQAALMPLLPELSSDATIPASEIGSVEDVTYQGFEHGVSNDSNLYSPL PAIVQSSPPVPKHLEARHSTTPPQPRTKGRRKKWTTSMDDNHPRLSTGRAEEEIARLRTSSYDSPSKGRSYS YAPPSSSPPLRQASATKSGQMLPPLTPAMKLKAPPMPPPSVSPTTNLRLHRESVQSMVDATYQRVAALLPE DDSLLQLTPNPTLTLDDMLYGFERGTDNVTSEIDIFQDSPFGYYNFGVSPAINQYNGSPVKQSARRQRPERS QSTGALTDMTSFSRGNGNDAASFLKVPSQPVDLNTGTPSKVFEGLPSSPSKVFLESPCKINSASNDNLENLE PWMTMNDLCGSDFLEDSDFSGIDMLAGFEKIGSTPANTSRPTNNAPTIAGLPPRQAYSRCYSNIF	38 matches over 35% ID over 80 by sliding window FASTA	AOL has 38 Matches of 35% ID over 80. BLASTP has 100 alignments of >43% ID by BLASTP to diverse taxa and proteins. No concern of possible cross-reactivity.
170	>EAA27310.1 predicted protein [Neurospora crassa] MKAALLPFAAMLAVAAAQTTSVCAAAYIVETCLGTENSRLALCGRDDYGCKCAQYPNIIACYNNCPNDPR KASAMGDRDTWCALDKQYPSSTTKVAVATTSLNTAPAAAATTAATTAISSSGSDNENTGDAITTATGAAS SNTASAPSTSATGNAAGEVLVSTGGLLAAFAGVVAAVL	Four matches of >35% ID over 80 to LTP of Prunus and grass pollen Poa p 5 and Hol l 5	AOL has 4 matches of >35% ID. BLASTP has a few over 70% ID, and more than 100 matches with > 33% ID. No concern for possible cross-reactivity.
171	>EAA32310.2 ubiquitin C-terminal hydrolase [Neurospora crassa OR74A] MEKLKGTKTTSLVPKKFRSVREKNDLHRRNKSTEPGPKSRPLSDMAWLSIFRPESVKQALREKGEVEKEASKI AEITRQLEELNYTEISEQIVRFSLNSKFANGDVNKAIELIRLQQKAFAGIIQPYNPKISMQGAENRGNVTCYLD ALLFAMFAKLSAFECMLKNDPADENHGRLAALLRLWVNMLRSGMLIHTDMTQLIQESLAACGWEEAQEL EQQDTSEAFAFITETLQLPLLALQVDLFHQGKKDEDDHKVVHERLLNLAVPPDPDGKGIKLEDCLEEYFNNKY DVFRDSVEEKKGDDERGPLPRETERLLSEDEDGQTSDQGDNSPNLQRRWTSQDSTTRTPVSMLDITSARPE LPAAPRHRSTSIIQRIVVEDRKPPLDAENKTLLQKAKRTSSTVVKAVTIPAWQFFRLIPWHATAASNGEPSND VEVARHFNQRPVVGICLKRYTMTETGFPIRQNTLIDIPDSMRLPHFMMPDDDEKQSNGLSQEYKLVLQSVV CHRGDSLHSGHYVAFARVAPKLLTDNRRYEHDPPPDYEEAQWVKFDDLDLDNRVSYVDDIRDSLRQEMPY LLFYQIVPMVDVTAASTDGSVGEPPSYNESTTVVTSVPGTPSMEPLPERPGGMSRSISGYFDSASTLVHNG GGPNIRFSTELERPARLSLDDDPYGTGSAGRLRAGRSRRGSLAVSDTTTTTTAITPSDVGAPSIQPSTPPEES TSTRLGRAAAKFKSKSRPTSQAGETRISLTITRWGLTRPSRDALNKDANSGAGNSSEGGSDEQQQEVKEVE DVSDKNQKEKNKDKEGHHHLHHYRKSKKDKGRDKDDTKEKSKDKEGKKEKGDKLGKSKETGKDGVPDREQ NMA	Three matches to an Ascaris lumbricoides ABA-1 protein by sliding window	AOL has 3 matches over 35% ID to ABA-1 sliding window to Ascaris lumbriciodes. BLASTP has 100 matches to diverse taxa and proteins of a few fungi over 45% ID and hundreds of AA long. No concern of posible cross-reactivity.
172	>ESA42133.1 hypothetical protein NCU04774 [Neurospora crassa OR74A] MAWELSSWLVVMRAFQIAAALVGATTNGFVTATVLKNGHLQLTKSMLIPELLICMTLVYATLVVFIQHSGH RSRKTGWLFTFVMGDIIFCGVDLAIITLLANAGLPSHCSGLATTKEEDHHKVYIPPPGFTTPGFASGSVGEKG QLDKFCAFERSYYAIALGLVFTYIATIILTVLRIFERNYTENSKCIEVLNSLERADTLESKHSDASSQIIEAPRPHP DRSGPSSEGVITRTASIRSNVTAMTSSTAAGNGPYLSGAIQSNAIPPRRPVNQNVSVPARQLSVSTVRSNNT SRPGGAIANFAPVSPIDEGEIDIGAALVADGPQYRAHQSHNNIPHQQYQPNQQHQPQRHHQRNLTQGTL PPLAENDILSPEVALLADGPQYRPNQQQTQHGQQQQPQHQNLYDFPRNVPLVPQGVSLPTPVKGDYLALA SDGAADGVQYPTIQRPLNHPLPQQLSSHISQPQGISAPIGGGIGGGEKTDYLSLAADGSSDNSRQYPFIQRQ PLHHHHHHHRHNPSLQQSALPPFSGPGAGGPGTNFIYPDIPTNPHSGSTTPTPSSRNINPNYAPASTGGLNLE LRYDGGSSSNTTSTTAHTHTPPSPDRYSISMSDVSSVSTALPPYQRYETGMEPQ RPAALASYPSQPQSQNQNHFAPHSSSSSSRPNSDFDAL	19 matches to gliadins of wheat, barley	AOL has 19 matches to gliadins of wheat, barley. BLASTP P has 100 alignments, most are >35% ID and over a few hundred AA long. No concern of possible cross-reactivity.
173	>EAA31571.1 hypothetical protein [Neurospora crassa] MSAPSLVQAVAKRGWLNKMLKPVSNWYINAAGYRQMGLRADDLISEENETVLAALQRLSPKESYDRIYRI RRATQLSLTHKLLPKNEWTTQEEDVPYLRPLIDQIEAEAAEKDALDTLAVVKN	Two HDM cytochrome C proteins aligned with >35% ID over 80 AA	AOL has 2 matches to HDM Cytochrome C proteins over 35% ID. BLASTP has of 40% ID over nearly 100 AA. No concern about possible cross-reactivity.
174	>ESA42268.1 Ser/Thr protein phosphatase, variant [Neurospora crassa OR74A] MHKLFDNGEGRTTIAGGQGTMWTTLLQMGELVDTANRVYDPTETRIFITHASPAREGILNQLSVTLKADF SISAGLHFRYGSSYNEFSVNPTLDHYRGKLAASKASFNDVWETVRSEVEPAIQQNDVQQTLLKNALSVVEK MPTTAAGGNPFGGAAAGQSAAALGQVDESAFKNMWNFNLADAAFGWLVLEIHDGRIGTEMRAQGFN FSHRGAKQPVYAAQGAVPPSTGGANPVPTGPAAASTPVQPAAQPAPAVPAVPVVPKQPPAQTAKPAAP SPAPTQPKAATPQPAAASPASRESEKPASAPTNGASNNPEPTPSPAPKSAAESIIGLFVMQPPNDDAIPGLF AEEDRSKIVKVDKWGQNNRVVFFKTVEDRDGALDRLPQEYKSRGTGSDDRSKPLIKVFNPPSSRPFNTRGG AGTWASSRGGREGTQSGYRSAGGGTASDSEGAGRRGGRGGSRGGRGGERGGRGSRRGGLKGDGSPA TTSATPADS	Nineteen proteins from diverse sources have >35% ID over 80	AOL has 19 proteins with at least 35% ID over 80. BLASTP has 100 proteins of >60% ID over 300 or more AA. No concern for possible cross-reactivity.
175	>EAA34532.1 predicted protein [Neurospora crassa] MPSTKTVNVSESTSGDSNKTTSPSEIVPSTDTTDRASDPSLIGPVVSLSTSSTEDTPEDSTITTYISPVMPPVDA ANVPLPEDECDEDMLEVTPPADHAATIPKSDNVELADHEPAGLNTTDQDQDDSQPEDVGPPDTSFASFPS ALTLPKTPERQAESLADSGDHRGSTTSSFSSIESCPKTPTREGSSTYPFVVEDETKSLSLDSLDLMSSNWMENI ANFLEKIEHIEPDTEEVLEPSIVAFVEGEEYDGPTIALPDTPEYHPYSNNFQVRLSRYGGFGTFATRDLKMGE VILNEKPLLRTPRDSFYTEFLKLPEEDQAKFMQLYTPPGEYTSHDGSDYNHIRGILKANSFAINPYSSDIISVYN VTSRLNHACRSVANVLFDFDFQDPECITLTVSKPVKAGSELFISYGGSPLSLYERYGFRCCCGGCEGVTDQDI AIMKKAKDIFKYLWSGGLGGGSIP	Three alignments to soybean glycinin with >35% identity	AOL has 3 alignments over 35%. BLASTP has 100 protein alignments with >35% identity over ~ 200 AA diverse taxa and proteins. No concern for possible cross-reactivity.
176	>EAA29991.1 hypothetical protein [Neurospora crassa] MFARTALRATASASPIARVSASAAPVAAASRFFSSSPARLVKIGELLPEGELLQEGSPGNKVDLRKEAESARN MLIIGVPAAFSPACSASHIPSYIQHPKTQEFDVKAVVSVNDAFVMKAWKENLDPAGESGIRFLADPSGSFTK ALDLTFDSKAIFGNDRSKRYAMIVEDGKVTKIAVEPDNTGTAVSLADKVLG	Six matches to fungi hypothetical proteins with >35% identities over sliding 80mer	AOL has six matches > 35% ID. BLASTP has 100 diverse taxa and proteins with > 54% identiy over nearly 200 AA. No concern of possible cross-reactivity.

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177	>EAA35124.1 predicted protein [Neurospora crassa] MRRVYQGPPSNYRPPSSRFATGTNNRREQAAPTGLPGSNPWVENLTEHQTSHLHGSLSFQENAELASRRF IDGGSSATAPPRQQATAQETRSRAMRGVFYDPVRDIDVVLSPLVLLPVAAEPVLGNALSDDGSIETVVATES SPAFSEPNFQQIVGSNTQSSVPNPRVEIDLTTALTIKLSRSRRTLASSFHQIPATAVEPDQYQNHSRVQGTLA QTLPQSAPQFAPPNAPRTSPIPQRNTRPKAPAMFRDISSHDLFLRQPNPEEHEQVRVAASYGFTTSLKPVRE RSSDAALYSLQEGQEELPRKKLNKRGGARPGAGRPATKMLRQLAGETTQQPLRAGSLWGRPTSTTSPHSD GSGHAVCVSGAGSLSSSYSGFTLVPSADPYIQPSSSFSAPVGPSGGALEPECASVAGAVYTTGSNTGFASTS SAGTRDHPSSSLSATVGPGDLSGTFPSKDKRRNADGSDIHSVTGNFSAPVSTSVAVLVAASALELLKGQKEK PPRSQLAALDIERVGDAEGGNGDDVSGDVKTGEERREQVVKHTFAKGPENLYKEETPWLQSRNLREGTGE GLRLEAALPKSKAEGTRGTKKPERRMQAEGDGKRQAAVKGTENGNGKRKANAISPLAERAAEEPAKGEP AAKRAKTATMSSSAVSETPVRRSARLRDSAAKNRVTELE	Matches above 35.0 to Cup s 3.1 and Bup s 3.2 by sliding 80mer	AOL has two matches to Cup s 3 with 35% ID over 80. BLASTP has three matches to Neurospora proteins >80% full length and three to Sordaria at 33% over less than 100 AA. No concern for possible cross-reactivity.
178	>EAA29323.1 predicted protein [Neurospora crassa] MKFTIALALFSAVAMAQNCPQATLMPACATPCISSAASAVGCNGADYACQCSKSAQLVASAQGCVLGGC GIEAAPTVISAASAICSACA	No tests positive to AOL	AOL has no matches. BLASTP has 100 alignments of >35% identity to diverse taxa and proteins. No concerns for possible cross-reactivity.
179	>ESA42324.1 hypothetical protein NCU12151 [Neurospora crassa OR74A] MSANQAQHDPESEPASETTTLLPTDHHSPDPENTPKMSSSLFWKVGAIYGAAAVGLGAFGAHGLKKRISD PNKIASWSTAAHYQLVHSAVILVASHHPVASALFTAGMTMFSGSIYALTLDTERFRFLGPVTPVGGLFLIAG WLALAFASKGTAVARFPRF	Two matches to sesame oleosin >35% ID over 80	AOL has 2 protein matches to sesame oleosin, 35% id. BLSATP has 100 matches to diverse taxa and proteins >54% ID. No concern for possible cross-reactivity.
180	>EAA35807.2 SET-7 [Neurospora crassa OR74A] MFKPTTSTQPDPEKPPAQVHDEEEPKRSYHPLLKPVFGPARKTAGSTAPSRVPEGGHMISASQGQSSKPMS APATQPPEAPNLTVQDIESKLQSFIATVGEDHARFVEYLLDEAEQMAPEPKHLSDFDAFADMPALSAPATTS DTASISDDGVETMAFKIKLHHGDNGKPRAPTKAFKCPVVKIKTDKEVVPKYRFHHTEIKKNILVPNTMLTFVP HLRDVDPDSVDERDYISWLNELEKLDTQSGFKTENRQQKNHKRVRDEFTATLSMYIEPWLKQLGLDVVCGR PTLIRYMLSQEENKAHITQQQKDVLLNTYKDDAILSPKAVEAARIFTLAFNNVFGNNTDPERFITLRDVLLLEK RETVVDEKRAKETPPPANPQRDQSDSNGLLPKVEASLSSYAVLGCNVCFSHDCEHGDIDAHNYHRTFSLDS VGGVIRALKRKWADQVASMGGDEEAVAAASKKALHLPCHNACYRHYDVGPAAAPVTPWANSEISVLED MFVSVGHSQTLKAQCVVASILGRKCWEVYRKIKELDLSLPQVSPPRPKTGPKGGPPTKVKPLPWYDRRKKCL MGDWQDQTATHEHSIREITEPCHHDGPCTKENEACPCANASPRPLLCDRFCQCTVDECALKFTGCACHST GKTCIQRQKEGKPCICIMLNRECDPVVCKGCGAKERADPDNAHDETLHSTGCQNVSLQRGASKTVLLGKS QLEGCGYGLFTAEDISQDEFVIEYTGELITHDEGVRREARRGEGFGSQGTSSYLFTLLEHEGIWVDAAMYG NLSRYINHASENDKKACNITPKIIYVNNEYRIKFTALRDIKAGEELFFNYGDNFPNLTKKLLEDQDGDGENDT ATKSKGKRGSSSLAQGTARKATTKASTTAKGKAKTQGRARGARKTAVMEIPPSDDYEDQTWIRDPLPLYD EYDEDDDSYLPVGRKRRKRGGKRAGAGRKKKTPSPEEGEEEGEDHGSAGEDDAEAEAEAEGDEDGDGD ANGPSNQQTRNRRTRAVSEISDSQAERDEDMDEMESEDSDAPLSPTRLANPHSGSLPANPSGISPSKSKRK SKSKKRKAPEAEIYSMAEYSSSGFGSGSDAELFSAPESKGDHASPSKKKKQKTTSTSTSTSTTTTAANRTRTR TTRSSRSARATAAKTTTSPATMKIKPLGVTVTRSPGGRGTAARHTSMHNAAAEAQLRAEQSLRDEAAAA AAAAAAAGGASNAQPQRALQGQVQGQEMQATQGQGQQMQGSTSSGLYHTAANFQPFTSDNDEDD GEEDGASVGSGEEEEEEEEEEEEDEEEEEEEEEEEEEEGEDGASLASGEEGEEEEGQNRKGLGSGEEDEED EDDDEDEDGSEGDGGDLDVDVEHGDADAYTYTYAENDLLLSLSNEEEEGILGDYDSDGAASNPSGPESGS SNEGDESEDDDDNDDDDTGDREESKEEDQSPVKRLRPRHPHQASPPTKSMASKARPPVVGGKVLRQRSS QSQSQSQSQPHSQKSKITRQSSTATGTRSTERKITRSTNTSGTTSTRKPSNSNTNTNPKLKPKPSGPSKETRSS	Nine matches to AOL by sliding 80mer window. Mosquito salivary gland protein, cashew viclin like, soybean glycinin all >35% identity over 80	AOL has nine matches to salivary proteins of mosquito. BLASTP has 100 protein alignments over 35% identity, diverse taxa and proteins, most over 800 AA. No concern of possible cross-reactivity..
181	>EAA26668.1 predicted protein [Neurospora crassa] MSWGPNARNPNNLMPRGARDYDPIGPLHFVCGHLCAVGTQLFTKPGDKDKGEEDMLILPPREYLVEVA WPCSECKDSRAWVWEKGDEVKKGEYVRNEDLMPVVGNSTKAPVVGAGAAPNSNAVASVAQKVEKEKE EAKEKEKEKGNEEKHMQLAKEIERLEEDKTWLEKQLEKLLLLP	No matches by 80mer scanning window, two low identity matches by overall FASTA to mosquito allergen and to 60X ribosamal protein Fusarium	Two low identity matches to AOL proteins. Two high identity matches to N crassa and N tetrasperma proteins none to clear allergens. No concern of possible cross-reactivity

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182	>EAA31355.1 hypothetical protein [Neurospora crassa] MAPSGRKKGKEVDRSPTSILKHGDYTVSLTSWLAGGPVVLGKKPRRVIDLKVERDRKSETSDQSLVLAKKDH DAAASDMEVGTSGSEGALTHTSRQRRGTEGSSQPAVSSKPFLTYEEKRVEKFTIRPPPVVFNTPEDVPTGW LEAMLNQRKNGESSKAVPKKAISYEHNDSEDYEAGYDSPPHNKSKLLPKKSSSTSRRASEIRIETKSSSKKGTR KVKVITADATDESDESLSDVESRRPMKTKKLERRSVIKERIKKKMHVEVSDEETADKVTTDIESSDIESTDVEP RSKMTSKKKSSTSSKKTGSSKVKVETRGRKGKQKVVVEASSEEEEDSSVESTSEAEPSP PKKIKNKNRVTFTETTRKGKKKTTTVESSDEADIAHVKPRSSKKAKKSEICVKTGGKTKAKKVTFEPTDEAETT DDATTDAEPTPAKAQKGKGKSKTKAKKKIEVESPDPEETTDAVTTDDATQTEAETTDADTTIAEKPKGTPA AGKADNDWTPSQDASILSMKEGGESWADIGSAIGRNKNEVKKRHQELVRSGAAHVNKGNQSKAYKAQN KKNKNNEAGPSHASVADDTMGFGELPGFGFDADQDNNNNNNNDNNNNNNNNNGDGWSGGGDQN NSNNETNNNNNNNNNNNTDNNGGDGEGAWGGGNQNDNNGGGDVGPGFDTPAWGADCTGGGD QDTNNNNNGNNDTNNNGFGDAGWGGGDQENNGGGNVGPGGDKPPSNSGSKNGSNQGKPPSNKPP SNKPPSNNGGCGSGSNNGNRPPSNSGNWGQNSNQGNNGNNKPTSNSGGDWNNGGSNQGNKPPSN NGQGGSANQGNKPPSNSGNNGWGGGSNQGNKPPSNSGNNGWSGGSNQGNKPPSNSGNNGWSGG SNQGNNNNRPPSNSGGGWNNGGSNQGDNKPPSNKPPSNNGGCGSGSNSGNRPPSNKPPSYNGDWG SGSNQGKNNNNNTKPPSNNGGCNTGGSNYGGSNNKPPSNSGRGEGSNQGNKPPSNNGDWGNAGPT QNNNGGWGSGSNQGNKPPSNSGGWENGGSNQGNKPPSNNGNWSSSSNQVNNSNVKPPSNAGSAR GSNYGKPPSNNGGWGSGSNSGNKPPSNNGNWGGDSNQGSKPPSDSGGWNNGGSNQGGRPPSNTG GWGSSSNHGNNNNTKPPSNSGWGGGSNHGKPPSNGGGWDSGSHNGNKPPSNNGSNRGGGSQQGD EKAKSVEKELSMKDQEIKDLKERVSAEKMQRLEAEVFALRIQNRANRLNQNKQPEDGMGWNTGGSDNN WRPPSAAGSTKSNQPPDNNTGWKSGPGSDQEWSVAPNPGYKPPSNSGWVPKNFVPPQGSKPPSNTAP PGSPDGWIYGSPTESERGRMAKRVEAWKGSISSPKEEGRWGTPDGGWHATPATDSRPREIAPDNTRGR SPAARSTSAKDWKQGLTRVDEEPDIGYDMWKKPPSNNGKPDSNAGRNSPGNFNNKPSGEQYGWNSGP DAVAGTGTGWGGGSDRVSTPSFKHPAKDEWTGGTKGNDKPPSNKPPSNKPPSNNGDWTPGLGAATG WKADCTKPPSDSGWGGGSNQGKDNNKPPSNAGSARGSNYGKPPSNNGGWNYAPIGGTSKNDNSNNK ATGGNDSLTAFLQNPPPWGADCTGPWDSNKPANNKADKGDVQNALNIHTVRDLPGYNGDVAPMGLS GFPPVVEHYAPVPVPPVTPGPPGRYPSTPYSATPHPPGYPPKSDAQTTLLPLYNNPPPQAQYPSHDAPWNS TSWDTKPALTTKPPGGPSSYQPGQRSAQCKTLSEEDLRSLYKQVVFSAMSSRQPLLQPKPDRNFTLRDCWV LIALSEQYDHSSASKEKWFELQAKFASATGRIVDAKLLRQKVKQGEKEAKVVEGWEDDEVGWRYKKKWE	9 hits by sliding 80mer windo, to collagen of beef, salmon, to manihot and to collagen of salmon and Lates (fish), also triticum and short ragweed Art v 1, above 35% idenity over 80	nine minor matches to AOL proteins 35% over 80. By BLASTP six matches of signicance to N crassa and Sordaria proteins >71% over 600 AA. No concern for possible cross-reactivity.
183	>EAA32974.3 hypothetical protein NCU05211 [Neurospora crassa OR74A] MAMRKAPRLPVGSAAWVAEERASALKVAEEEVEEFSYAARNEMDWLNEHMEDIFLGENQMNIAEIFKT PARPRGKTPRTIRKGPNTEVRVPLASIFSATPKGVTPNPFVLAPPANNSSWTPKIRPDTPEADVEADDEADD VPKNPTTPSTRRASPRKSAAAKSPSPVKSVAAPSRQPSPVRPNNTTPMRPPPASPAKPVAATPSKVRSPIKH LNGSPLPILSKSPTPVKPSDSGYYGSQQLDIMDVDEVGKVADANANADVDVDVDMGESAHEPTMELTQQ SAQELPQQQPPQEPTQEQTEESIQPSNELNQEPTQEEPEQQEIESQDLGVQPAPTEPEQHASPAPQETAEL LRTTTPSEEPVEPTVQYPRLLSPEPDVIRSSSPVHMLIPSPTRSIHAPSPQKAASPQKLASPEKRLSPEKRVSPVK VASPQKDPSPEKIPSPEKTPELEKEESPVDSAPVLSPKKRSPETEPVTEQQPKTPAPFVHAQSEKDHADDQAD DKVDDDANSSMEASSPISPVKRLSSLNFASLPAREPMTSKKSLGTRMSRTSHVDVTRTSFYHRQTGGKSLGH TTRQDFDDDDDEMDIDDDHTQEPRTAKSYTQRLQDQINMLGKGQSMGPRPSKSIAHLLPTQQHASTSQA PTTQPVPEPTRSSPKKPPVVTPRAFPTPGAFPLDDDDDWIGPPSKGADMSTPMVWNARKDTRLSQPMEG MNLFAREASPTLGESFMENRHESPSKAPIIQEPPAASSSTTHVKSASVPTLPSLHEPPVPKTASPKKEASVSTS NLPEMPAHEPPSPFKSPSKAFRENTLERVKNKFSSLMKSSKGLLPTSAHSNAEAKLTGLFTTPSTARLEEHPSL SEASFKTADNVVYPDLSHHAQAEAPVAATPIRPTRKTRASTERERKEAEEREKEKKREEKEAKQYAKTYAKQ NEKLEKMREKEAEKARLFQQEQERQAEMERRAAEQREQEQQHKLTKARPQSKQLFETPGPFKSAPKSPKK ATRTSLRRGAKQGEAEKEEADVDMGDVTISTKAPQSIPRPPSAQASRGTGIKRPIRPTKEALTRAKPAPTRIR VNTTSSQQGAFHTSTNSVLSTTSQESLGQSHGRQQLVSKASTSSLTKKPSLQSLKGSYSLTVGRPKALELAAK QKEQEEREIQRRRDQKAENERKRAEMKEEEQRKQAAAAKKAAIEQAKRTRAPPPPPRSQPNGPPDHLAES RQPSRPNSRLGPALHDSRPVNAVLGKAASKRPLTQVQEAHQDSKRIRVSEDFDADIEMAEGNTKQQRSIR GAPVRPSAVRPSGVRPSAAVRQPSVGFKKDLSTTTTTGKSIFASNYTNVPHAPPPPSRTVDLFKKTTVNQIKT GHALDTAQFQKGNQIPFASNPNGAGPSAAAQAGSSRHPLQTPARPGATAARALALTSATKPTRTSPRLAA IAAGDSIELPEIQTDDEDGVDTPRPSTSNPNLRSSLNGGNWTDSPYLKAQLLAQEQLDPMVIFGPPAPLNM	10 hits above 35% id over 80 to gliadin of wheat, conglutinin of Lupin, ascaris tropomyosin	AOL has 10 minor matches to wheat glidin, conclutinin and ascaris tropomyosin. BLASTP has 100 alignments to diverse taxa and proteins above 38% id and longer than 600 AA. No concern for possible cross-reactivity.
184	>ESA43349.1 hypothetical protein NCU00370 [Neurospora crassa OR74A] MGAPPDKGNLKSPKRVSFQQGLEKDVQPLPLKSALRKRPSFQEESPAQEEPTSPEHYPAFPPADPGVSTSSQ QVFTHHTGPGGIQADHKAAPYPPSFIPASPYQQLQPWQLGYNQQTAQCQTVIPYLPTTYQVNMSQYALA PANTGVHFQPQVGDTSTGPELHYYTPRHDGQLGLQMPVQQAAQYMATGIPVPMQQVPGAAPPGYIVQ QPVMPQPAMQPVLVQAQPVPGQPMMMAQPQPAYAPGATVIVAGNAPVAPMPAVPGAVHPEPALGV GLTASEVAANNEQIAYENNMDEAQDFKPADDDPSRMYRCREVDGNWTLRNRFTIDNLGDCRWYMTDD GVEYAVRMQS	25 alignments of >35% ID to wheat gliadins, to crab Eriocheir ovarian protein and to barley protein	AOL twenty five alignments to gliadin100 and crab allergen. BLASTP has > 100 alignments of >39% ID and longer than 100 AA. No concern for possible cross-reactivity.
185	>EAA31227.1 predicted protein [Neurospora crassa] MDSRKGDSSSSAHLSSGSAPAASQYITPSSTPEHDFWTAAGLGSSKAQTGPSFPKHSSETTPQDFGNGDSL FEFDEPDGPDYSSSIADSIRGHVYECGLRYHAYHAGKYAYPNDETEQSREEIKHTMSVMLCDGRYFFAPVEE ALEKGGQVLDLGTGTGIWPTQLAESYPDAVITGVDLSPIQPSFVPENVRFYVDDFEDEWVDPVNKYDYIHLR FALHTLKDRNSLMQRVMRHLKPGGYFEIQEIDVSNPSCDDHTLTPDTPYAARDALKLLGAGLQAMGADISA IQKTSQEMREAGFENVTEITKKLPLGLWPADQKLRLCGLFWRTSIMDGMTGLCSRPFQAAGLTPTEIESFLV EVRKAVMDGSIHTYEPEITVYGRKPLGG	One match above 35% ID to riboneclease mitogeillin Asperillus	One AOL match above 35% ID. BLASTP hasover 200 AA or more. No concern for possible cross-reactivity.

	F	G	H
186	>ESA42872.1 developmental regulator flbA, variant [Neurospora crassa OR74A] MAAGSSSSRSTNSDSSSPVVALQAGHRSTGSTVNSSKSRSASSSISTISSSANTGSAPATGTSGTASNTPSSH SSSSSSSSSTTVSALAGNTIAKAKSNSVRDPVAKPPYPAVSGSQTRQQAHSHLSSLSVSSQRTGGIFALAAAA LDKTLAGLGEPRIRSRQSNGRLSAGPESPVGGPLLPGPDKSSRSRSASRSSPEDERYLASSLVPRDPNPPSQPV SETDPNRPLPVRVSRVDNKMHQTSSRLLRMTDDDRPFTKDFKDLFSTLIVSLLPLSAHRVRLTKVEHTFLSED AINNLGSLKFSQSNRMPDPKDPSRIVTTTTTTTFSMAKDMARSICQRFLEARFIESADGRYQQVYSMKGSV WQLTPKGISILDRFCSRNGIQQKQVAELIGNSLPQIVILERNPQTDKVLTDRALIEVIFRRFIGPNGFNIKQSVS SADSDSLSDYRDGLTGVKMAAERKVNGRTYRDTFTGKAATDWLMDCSTAVDRRETIEIASLFVEYELMEA VQQDKAHMQQNPGHHLFQPTKHAIYQVTPKGKDLVNGALVRGRPSESDGHSASRSVGIARDSNTQRLDK LNENSLRLLFRENLRETHCEENLAFYLDTDEFVRQCRAAIDLAQRSPNSAASLDGIKEIMAQAYGIYNAFLAP GSPCELNIDHQLRNNLATRMTKAVGQDVTMIDTLREVMALFEDAQNAVFKLMASDSVPKFLRNPKYEQTL	Three alignments of >35% id to Aspergillus protein	Three alignments of >35% to Aspergillus protein in AOL. BLASTP 100 alignements of 60% identity or more to diverse proteins of fungi and others, 600 AA long. No concern about possible cross-reactivity.
187	>EAA33138.1 hypothetical protein [Neurospora crassa] MEDVTKSAESLNISNDNDASESSAPAVIGPAPPPPGADLSALFGNLPPGALAANAKPMTVQETFEEMNKH PLFMTSLPSDEDNEELAALQALAYEGTPLENAQNFKEQGNECFKAKQWKDAKEFYGKGIAVLVKADRERR DPAFKAKVEEEKRKREEEARKAREEGDAKAKMEADLENVKAEMPIAEAKEDKEEKKEDELSEEETIKQEASL LETLYCNRAACHLSLANYRSCTLDCAAALRLNPSNLKALYRSGRALLSVSKIAEADDACARGLEIDPSNAALK QLARDLIAKNEEITRKQRAEEARLEKERRKKTLKKAALEARGIKTRSTDDPPSMEDACIQLVPDPLDPQSELSF PVMLLYPLKLESDFIKEFRETESVGQHLEYILPDMPWDEEGDYDRPDKVECYMESVSGGLIRVPQKASLLRVL SSGKTFVVDFLVRIFVVPKGFKAFGWIKFWKFKKAGFKK	15 alignments of >35% ID to various allergens, tropomyosins, paramyosin snails, octopus, crassostrea, anisacis	15 low identity alignments to AOL various proteins from fish, snail, octapuss, Anisakis. BLASTP has 100 alignments of > 47% over 300 AA to a wide variety of taxa and proteins. No concern of possible cross-reactivity.
188	>EAA26899.1 hypothetical protein [Neurospora crassa] MPSDKAAYLAAHYLSTDPPNKSSSSTSKKRKRKNKSAEDGLIIADDDDTSWAQAAKRDSDDDDFDGPVLAA GVVSADFRKAKKSGWKTVGSSSAFAKQATTSTTTNSTKEDIDAAAAADAILAQTAAETAALAREAGGDDE VLVVDTTTGATALTRSHQPAETATQAPIMSNGTHAGLQSASAITAQLKARQEAERLELERIRAERDQQHPE DQEELVLRDATGRRIDASMRRAEARRQQAEAERKEAEKKRALKGEVQLEQARRRREELEEAKLMPLARSK DDEQLNAELKQQDRWNDPMAQFLAPEEVKVKGRKKGTAGRRPTYKGPAPPNRYGIKPGYRWDGVDRS NGEFAERFKALNRRERNKGLFYAWQMDF	One alignment over 80 AA to Conglutinin of Lupin	One alignment to an AOL protein, conglutinin. BLASTP has 100 alignments over 42% ID to a wide variety of proteins and taxa over . No concern for possible cross-reactivity.
189	>EDO64943.1 hypothetical protein NCU11128 [Neurospora crassa OR74A] MRLLCLSGGMKLPLGSEALSRLETAQEPRNWEAGTMLAWLCLNVGRVALPRPSFHAAGGLGLGYTNTNP HTTYIKYVKHVSRRKDDNKYVSGASMPAKNDLRLSVHIVLPGYLVNSSTPFPVCGFMGIVEND	One match to legumin of black walnut at 32% ID over 80	On alignment to an AOL protein over 35% ID. BLASTP has 3 alignemtns of 63% to this protein with more than 100 AA cover. No concern about possible cross-reactivity.
190	>EAA30635.1 predicted protein [Neurospora crassa] MGHGPPKPTTTCTTTHALNAALLTCSPSPSPSPSKATTRTTASFTTMRSSSSTTTCTLPAEAPLVHPSSKQA ATTRIQIRQDDMENKVDRTGTDLKTGSRARKSLPLVHFVDDDEVASDPPRSTNMEPTLNVFAVKIKKTAQT DKASNSKPAAVANKQRPKDPSYRPFKGTGEWSSESTDDDFDVGFVPGDLPVFRKVKGQQEHKQFSPVTGI TRGTSSVSPPRPLTRQPTRPPPPPPPPPISNRLKRKRIDDPTYRPSKNSEGSISDDNDAEEDGESDEGIEALIRV VKDNNAKVKKVRRKVARERQQENVLKEEKGSHVVLKEIDDDEKRHSSMKKKTKNRKSVLDPSYKPPKDEED DSEEYSDEYTSTDGWNRQRRSRVRAPEGGDGSEENHNDYNGNVSVNVNDNPENDVVPTTKQILPCQAR PCLPPKFGRRKVNRLSKPPRIYDPSYKPGTTSSDDDSNGIDSSWSSSGEGKDRKKRRRTLYQSKNAPKKKNQ TVSNLQQEVIRLMLEETKPKPAFAMPVTKKRKRPRLIRRNTSDRSFCPSDTPSDQYSDIWYSSEYSSELEVKN KKRKKGTNKKKDQWNVNRVATGLGLVTGRVLDLDRGRPIEASEEETRESVKPEKDESTNRKKMERGRNGT IDAIDGTYEPSTDSPSSDSDSEAIPDLDRSVTSMEISNLNENKKPELIFEPERKVTVPHVNSEGETPQIHTGHET LSNVRTAFYPLCHSRYTSWPPARGTVYCKPCFREQVIVRGLLIRRGISETLRLLKVLLGGGSDFGNELDEALEE ILDGVVVTGQTSMTRVKDHDQGQDDEDEREERVQRGQNTRTKPMPSAQSSLAELPEDVRTLLVLRRLSDV VNTRSMPTVSTARPSGPDVSLETPASLHVPSDANAVSLDHCYQQQDPTGPSRYSSPFAPCPPLTLRGGTPN CAAISTGINASYFSLKPPSSKAIISLPGENPLDNAMNILHDALGISTWQARRLWDQYEGSGIWDLAQVDLLV EKSYAKFLNGHKATKELPWAEGKESSLEGGMGKAENLQAAMLGLEGLARLEEEIMTALAEKGGREEEKQ GRTRQSDGGRIGITTGATRSIIVGAVTGRKQSHDDDCRLDWGHAPNPNQKCKLTKPIELFNPKNQEAQPV SPQRPREPKVIPCHSCSRSSTVNHNSGATVRRNDYTEMGGRPWVRALQWTFDINESEAAKMTLNSLLDLI	>35% ID over 80 for Phl p 5,	One AOL match to Phl p 5. BLASTP has High identity matches to N crassa and Sordaria. Over 500 AA. No concern of possible cross-reactivity.
191	>EAA29847.1 predicted protein [Neurospora crassa] MLFTQTFGVSTAHISVAGVIVCLILFTLQRFLTLRLRRTGRERKASIAISKEKDKVKTDLPYLLQFPPSRRHVLAT LPGFEKVDVQAITPEMLKSQALPTVTTPDFDKDGFYTPTGFSTQDIKALGRFPDYAALSGVRDPNPVPETW DITKAKFRPYRPFRWGYHQHMALMKYDPDWWVELTSSYHTTMATRRALLAQHGSKIFFQNPCASHASRE LMEMVLSFLCNRYPQHFSLSSDQTLFHNHLLCTTTHLLQTDPLQVLFDNVPEDYAIMMRNETDGLYYLRAA VCSSVGWYASQHRDAPLKSIHTHVPDYESKMAFSMDRWFSKLSTESPVSRCSWGLEDWEAFHTSPDPDR SVSGDTMEWTRSAFKGREDEVTVKDIKLRCDAQTLRRMPVSGAVVFNFKAIFWDLEELREEKYVPRLLAKV LKEGKRELMEYKCEEHVRQVAVRACEQWAEEQVEKGWVSREWEVGTLEESPFFPGWEGKWRGEQGF	No matches >35% ID over 80	No matches to AOL. BLASTP has 100 matchee to diverse taxa and proteins with >42% ID and covering 300 AA or more. No concern for possible cross-reactivity.
192	>ESA43750.1 hypothetical protein NCU16305 [Neurospora crassa OR74A] MKPRSPFFFPCSSLVAFSAASVIKPPAAQDDPAFSEDLNTRTPTVHTVFQPMTTAIYHVVGRQDGQPPTG APNSGSGGPETGPGTGGQQPEKPKPTHDPLPTLAPSDSDSGGGGNGGRIGAIIGGVFAGIIGLILVVCVI KGRKARMEAQEEDDEEYEMRRQRRRVGGR	One alignment >35% ID Lates cacarifer collagen	One AOL match low identity for Lates collagen. BLASTP has six alignments, two over 78% and three to four diverse species. No concern of possible cross reactivity.

Exponent®

Center for Chemical Regulation and Food Safety

Estimated Daily Intake of Rhiza Mycoprotein from Proposed Uses in Select Foods by the U.S. Population

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List of Acronyms

DHHS	U.S. Department of Health and Human Services
EDI	Estimated Daily Intake
FNDDS	Food and Nutrient Database for Dietary Studies
g	Gram
NCHS	National Center for Health Statistics
NHANES	National Health and Nutrition Examination Survey
USDA	U.S. Department of Agriculture
VIF	Variance Inflation Factor
WWEIA	What We Eat In America
y	Years

Introduction

At the request of The Better Meat Company (The Better Meat Co.), Exponent, Inc. (Exponent) conducted a dietary intake assessment to estimate the total daily intake of Rhiza mycoprotein proposed for use in the following three categories: plant-based meat analogs; ground, minced, and chopped meats; and dairy analogs (including milk alternatives, cheese, cream cheese, coffee creamer, frozen dessert, yogurt, and whipped topping). The estimated daily intake (EDI) of Rhiza mycoprotein was based on food consumption records collected in the What We Eat in America (WWEIA) component from the 2015-2018 National Health and Nutrition Examination Survey (NHANES) and provided for the total U.S. population 2 years (y) and older (U.S. 2+ y) and four subpopulations including children 2-6 y, children 7-12 y, adolescents 13-18 y, and adults 19+ y. The data and methods used to conduct the intake assessment and results are summarized in this report.

Data and Methods

Proposed Use

Rhiza mycoprotein is proposed for use in three food categories including plant-based meat analogs; ground, minced, and chopped meats; and dairy analogs (including milk alternatives, cheese, cream cheese, coffee creamer, frozen dessert, yogurt, and whipped topping). The proposed use level of Rhiza mycoprotein is 50% or 90% in the finished product (i.e., the food as consumed) depending on the proposed food use. Table 1 presents the food use categories for which Rhiza mycoprotein is proposed for use, descriptions of representative foods selected for the analysis, and the corresponding maximum proposed use level of Rhiza mycoprotein.

Table 1. Proposed food uses and maximum use levels of Rhiza mycoprotein

Food Use Category	Description of Foods Selected for Analysis	Rhiza Mycoprotein Maximum Use Level (%)
Plant-based meat analogs	Plant-based burgers, frankfurters, bacon, links/patties, chicken, luncheon meat, meatball, sandwich spread, meat loaf, fillet, and textured vegetable protein	90
Ground, minced, and chopped meats	Ground meats and patties (beef, pork, ham, chicken, seafood); chicken nuggets; fish sticks; seafood loafs or cakes; frankfurter/hot dogs; sausages; and meat spreads or potted meat	50
Dairy analogs		
Milk alternatives	Milk alternatives such as soy milk, almond milk, rice milk, and coconut milks	50
Cheese	Imitation cheese; due to limited non-dairy cheeses reported consumed in NHANES, cheeses that are not-further-specified (NFS) as to type were also selected as a surrogate	50
Cream cheese	Non-dairy cream cheese was not reported consumed in NHANES; therefore, dairy-based cream cheeses were selected as surrogates	50
Coffee creamer, liquid and powder	Soy coffee creamer; due to limited non-dairy coffee creamers reported consumed in NHANES, all types of coffee creamer (liquid and powder) including flavored, fat free, and sugar free were also selected as surrogates	50

Food Use Category	Description of Foods Selected for Analysis	Rhiza Mycoprotein Maximum Use Level (%)
Frozen dessert	Non-dairy frozen dessert and rice dessert bar; due to limited non-dairy frozen desserts reported consumed in NHANES, all dairy-based desserts (e.g., frozen yogurt, ice creams and ice cream novelties) were also selected as a surrogate	50
Yogurt	Soy yogurt and coconut milk yogurt; due to limited non-dairy yogurts reported consumed in NHANES, yogurts that are not-further-specified (NFS) as to type of milk were also selected as a surrogate	50
Whipped topping	Whipped topping including fat free and sugar free (e.g., Cool Whip, Dream Whip)	50

Consumption Data

Rhiza mycoprotein intakes from proposed foods were based on food consumption records collected in the What We Eat in America (WWEIA) component of the National Health and Nutrition Examination Survey (NHANES) conducted in 2015-2016 and 2017-2018. This continuous survey is a complex multistage probability sample designed to be representative of the civilian U.S. population (CDC 2018, 2020). The NHANES datasets provide nationally representative nutrition and health data and prevalence estimates for nutrition and health status measures in the U.S. Statistical weights are provided by the National Center for Health Statistics (NCHS) for the surveys to adjust for the differential probabilities of selection. As part of the examination, trained dietary interviewers collect detailed information on all foods and beverages consumed by respondents in the previous 24-hr time period (midnight to midnight). A second dietary recall is administered by telephone 3 to 10 days after the first dietary interview, but not on the same day of the week as the first interview. The dietary component of the survey is conducted as a partnership between the U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Services (DHHS). DHHS is responsible for the sample design and data collection, and USDA is responsible for the survey's dietary data collection methodology, maintenance of the databases used to code and process the data, and

data review and processing. A total of 13,666 individuals in the survey period 2015-2018 provided 2 complete days of dietary recalls.

Representative NHANES Foods for the Proposed Use

The list of food codes reported consumed in the WWEIA, NHANES 2015-2018 was reviewed and foods corresponding to each food use of Rhiza mycoprotein were identified. Exponent identified surrogate foods when the selection among the foods reported consumed in NHANES were limited such was the case for the dairy analog uses including cheese, cream cheese, coffee creamer, frozen dessert, and yogurt (see Table 1).

Foods in which only a component corresponds to a Rhiza mycoprotein use (e.g., ground beef patty in a burger, sausage in breakfast sandwiches, non-dairy milk in coffee drinks) were also identified by utilizing USDA's Food and Nutrient Database for Dietary Studies (FNDDS) that translates the food reported as consumed by participants in NHANES into its corresponding ingredients (and gram amounts) or recipes. Exponent applied FNDDS version 2017-2018 recipes (which corresponds to dietary consumption for NHANES 2017-2018) (USDA 2020) to process dietary recall data reported during NHANES 2015-2018 and FNDDS 2015-2016 recipes (which corresponds to dietary consumption for NHANES 2015-2016) (USDA 2018) for foods that were only reported consumed in NHANES 2015-2016. The proportion of foods (as a percentage of total weight) corresponding to a proposed use of Rhiza mycoprotein was identified using the USDA FNNDS and only this portion of the food weight was used to determine the amount of Rhiza mycoprotein that may be added.

The list of NHANES food codes (and their descriptions) that were included in this assessment is provided in Appendix A.

Analysis

Using the NHANES 2015-2018 consumption data, Exponent estimated the 2-day average daily intake of Rhiza mycoprotein on a *per capita* and *per user* basis. *Per capita* estimates refer to the intake based on the entire population of interest whereas *per user* estimates refer to those who reported consuming the particular food use of Rhiza mycoprotein on either of the survey days. Thus, if a participant reported consuming the food on day 1 but not on day 2, they would

be considered a "user" and their 2-day average consumption is the amount they reported consumed on day 1 divided by 2. For each subject with a complete 2-day dietary recall, a 2-day average intake estimate of the food use of interest was derived by dividing the cumulative intake of the select food over the two 24-hr recalls by two. The 2-day average intake of Rhiza mycoprotein per subject was derived by multiplying the reported intake of select foods from the 24-hr recall with the corresponding maximum Rhiza mycoprotein use level (see Table 1) and the cumulative sum over the two 24-hr recalls was divided by two.

Flagging of Statistically Unreliable Estimates

Intake estimates that may be less statistically reliable are flagged in the summary tables provided in the results section below. The flagging of statistically unreliable estimates was based on guidance from NCHS (CDC 1996). Specifically, estimates of mean consumption are flagged when based on a sample size of less than 30 times the variance inflation factor (VIF) and estimates of 90th percentiles of consumption are flagged when based on a sample size of less than 8 times the VIF and divided by 0.10. A VIF estimate of 2.52 was estimated by USDA for NHANES 2015-2018 (USDA 2021), and using this VIF, the estimated mean consumption is flagged when based on a sample size of less than 76 (30 x 2.52). Similarly, using a VIF of 2.52, estimated 90th percentile (and higher) of consumption is flagged when based on a sample size of less than 202 (8 x 2.52/0.10).

Results

Two-day average Rhiza mycoprotein intake estimates from the proposed use in three food categories were calculated based on food consumption data collected in NHANES 2015-2018. Both the *per capita* and *per user* mean and 90th percentile intake estimates for the U.S. population 2+ y and subpopulations of children 2-6 y, children 7-12 y, adolescents 13-18 y, and adults 19+ y from all proposed food uses are provided in Table 2. Table 3 summarizes the estimated intake of Rhiza mycoprotein by population group and food category. Rhiza mycoprotein intake estimates are expressed in grams per day (g/day).

Among the U.S. population 2+ y, approximately 86% consume one or more foods containing Rhiza mycoprotein from proposed uses (Table 2). The EDI of Rhiza mycoprotein from proposed uses at the *per user* mean and 90th percentile of intake among this population was 46.2 g/day and 100.4 g/day, respectively. The *per user* mean intake of Rhiza mycoprotein from proposed uses ranged from 35.3 g/day among children 2-6 y to 47.3 g/day among adults 19+ y. The *per user* 90th percentile intake estimates of Rhiza mycoprotein ranged from 75.4 g/day among children 2-6 y to 103.8 g/day among adults 19+ y.

Table 2. Two-day average estimated daily intake (EDI) of Rhiza mycoprotein (g/day) from all proposed food uses among the U.S. population 2+ y and subpopulations

			Per Capita (g/day)		Per User (g/day)	
Population	N[1]	% User	Mean	90th Percentile	Mean	90th Percentile
U.S. 2+ y	10,730	86	39.8	94.6	46.2	100.4
Children 2-6 y	1,056	86	30.5	70.5	35.3	75.4
Children 7-12 y	1,342	89	38.4	85.3	43.4	88.2
Adolescents 13-18 y	1,218	88	41.4	99.6	46.9	102.6
Adults 19+ y	7,114	86	40.6	97.9	47.3	103.8

[1] Un-weighted number of users; %user, *per capita*, and *per user* estimates were based on NHANES 2015-2018 and derived using the statistical weights provided by the NCHS.

Table 3. Two-day average estimated daily intake (EDI) of Rhiza mycoprotein (g/day) by proposed food use category among the U.S. population two years and older (2+ y) and subpopulations

Population and proposed food category	N[1]	% User	Per Capita (g/day)		Per User (g/day)	
			Mean	90th Percentile	Mean	90th Percentile
U.S. 2+ y						
Plant-based meat analogs**	119	1	0.5	0	41.9	81.9
Ground, minced, and chopped meats	8,725	69	20.0	52.4	28.9	60.9
Dairy analogs	6,147	53	19.3	61.9	36.8	89.1
Children 2-6 y						
Plant-based meat analogs*	10	1	0.3	0	28.9	NA
Ground, minced, and chopped meats	928	76	17.7	44.2	23.2	48.7
Dairy analogs	463	38	12.4	39.9	33.1	71.2
Children 7-12 y						
Plant-based meat analogs*	6	<1	0.1	0	37.6	NA
Ground, minced, and chopped meats	1,199	78	21.3	49.3	27.2	55.7
Dairy analogs	649	46	17.0	58.8	37.1	78.5
Adolescents 13-18 y						
Plant-based meat analogs*	8	<1	0.4	0	56.7	NA
Ground, minced, and chopped meats	1,056	74	22.0	54.4	29.6	62.7
Dairy analogs	540	42	19.0	66.0	44.9	99.2
Adults 19+ y						
Plant-based meat analogs**	95	1	0.6	0	42.1	81.5
Ground, minced, and chopped meats	5,542	67	19.9	52.9	29.5	63.4
Dairy analogs	4,495	56	20.1	63.8	36.3	89.8

[1] Un-weighted number of users; %user, *per capita*, and *per user* estimates were based on NHANES 2015-2018 and derived using the statistical weights provided by the NCHS.

* The *per user* estimates at the mean and 90th percentile may not be statistically reliable due to an inadequate number of users.

** The *per user* estimates at the 90th percentile may not be statistically reliable due to an inadequate number of users.

NA = Not available; estimate not reported when the unweighted number of users ≤10.

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Appendix A. NHANES food codes selected for inclusion in each proposed use category

Food use category and food code	Food description
Plant-based meat analogs	
27564420	Frankfurter or hot dog sandwich, meatless, plain, on bun*
27564430	Frankfurter or hot dog sandwich, meatless, plain, on bread*
41440000	Textured vegetable protein, dry
41810200	Bacon strip, meatless
41810400	Breakfast link, pattie, or slice, meatless
41810600	Chicken, meatless, NFS
41810610	Chicken, meatless, breaded, fried
41811400	Frankfurter or hot dog, meatless
41811600	Luncheon slice, meatless-beef, chicken, salami or turkey
41811800	Meatball, meatless
41811890	Vegetarian burger or patty, meatless, no bun
41811950	Swiss steak, with gravy, meatless*
41812000	Sandwich spread, meat substitute type
41812450	Vegetarian chili, made with meat substitute*
41812600	Vegetarian, fillet
41812900	Vegetarian meat loaf
59003000	Meat substitute, cereal- and vegetable protein-based, fried
Ground, minced, and chopped meats	
14620320	Topping from meat pizza*
14620330	Topping from meat and vegetable pizza*
20000200	Ground meat, NFS
21500000	Ground beef, raw
21500100	Ground beef, cooked
21500310	Ground beef patty, cooked
22002000	Pork, ground or patty, cooked
22321110	Ham, smoked or cured, ground patty
22431000	Pork roll, cured, fried
23132000	Lamb, ground or patty, cooked
23220010	Veal, ground or patty, cooked
23220030	Veal patty, breaded, cooked
23322100	Deer sausage
24198671	Chicken patty, breaded
24198720	Chicken, ground
24198729	Chicken nuggets, NFS
24198731	Chicken nuggets, from fast food
24198732	Chicken nuggets, from restaurant
24198735	Chicken nuggets, from school lunch
24198736	Chicken nuggets, from frozen
24198737	Chicken nuggets, from other sources
24207000	Turkey, ground
24208000	Turkey, nuggets

Food use category and food code	Food description
25112200	Liver paste or pate, chicken
25210110	Frankfurter or hot dog, NFS
25210150	Frankfurter or hot dog, cheese-filled
25210210	Frankfurter or hot dog, beef
25210220	Frankfurter or hot dog, beef and pork
25210240	Frankfurter or hot dog, beef and pork, reduced fat or light
25210250	Frankfurter or hot dog, meat and poultry, fat free
25210280	Frankfurter or hot dog, meat and poultry
25210290	Frankfurter or hot dog, meat and poultry, reduced fat or light
25210310	Frankfurter or hot dog, chicken
25210410	Frankfurter or hot dog, turkey
25210620	Frankfurter or hot dog, beef, reduced fat or light
25220105	Beef sausage
25220106	Beef sausage, reduced fat
25220108	Beef sausage, reduced sodium
25220150	Beef sausage with cheese
25220210	Blood sausage
25220350	Bratwurst
25220360	Bratwurst, with cheese
25220410	Bologna, NFS
25220425	Bologna, made from any kind of meat, reduced fat
25220435	Bologna, made from any kind of meat, reduced sodium
25220445	Bologna, made from any kind of meat, reduced fat and reduced sodium
25220650	Turkey or chicken and beef sausage
25220710	Chorizo
25221210	Mortadella
25221215	Pastrami, NFS
25221220	Pastrami, made from any kind of meat, reduced fat
25221250	Pepperoni, NFS
25221255	Pepperoni, reduced fat
25221260	Pepperoni, reduced sodium
25221310	Polish sausage
25221350	Italian sausage
25221400	Sausage, NFS
25221405	Pork sausage
25221406	Pork sausage, reduced fat
25221408	Pork sausage, reduced sodium
25221450	Pork sausage rice links
25221460	Pork and beef sausage
25221500	Salami, NFS
25221505	Salami, made from any type of meat, reduced fat
25221515	Salami, made from any type of meat, reduced sodium
25221610	Scrapple, cooked
25221810	Thuringer
25221830	Turkey or chicken sausage
25221855	Turkey or chicken sausage, reduced sodium
25221860	Turkey or chicken sausage, reduced fat
25221870	Turkey or chicken and pork sausage

Food use category and food code	Food description
25221875	Turkey or chicken, pork, and beef sausage, reduced sodium
25221910	Vienna sausage, canned
25221950	Pickled sausage
25230110	Luncheon meat, NFS
25230420	Ham luncheon meat, loaf type
25230530	Ham and pork, canned luncheon meat, chopped, minced, pressed, spiced
25230540	Ham, pork and chicken, canned luncheon meat, chopped, minced, pressed, spiced, reduced fat and reduced sodium
25230550	Ham, pork, and chicken, canned luncheon meat, chopped, minced, pressed, spiced, reduced sodium
25230560	Liverwurst
25230610	Luncheon meat, loaf type
25240000	Meat spread or potted meat, NFS
25240110	Chicken salad spread
25240220	Ham salad spread
26100260	Fish stick, patty or nugget from fast food
26100270	Fish stick, patty or nugget from restaurant, home, or other place
27111400	Chili con carne, NS as to beans*
27111405	Chili con carne with beans, from restaurant*
27111406	Chili con carne with beans, home recipe*
27111407	Chili con carne with beans, canned*
27111410	Chili con carne with beans*
27111420	Chili con carne without beans*
27111430	Chili con carne, NS as to beans, with cheese*
27111440	Chili con carne with beans and cheese*
27111500	Beef sloppy joe, no bun*
27113300	Swedish meatballs with cream or white sauce*
27116350	Stewed seasoned ground beef, Mexican style*
27116400	Steak tartare*
27118120	Stewed seasoned ground beef, Puerto Rican style*
27120110	Sausage with tomato-based sauce*
27120120	Sausage gravy*
27120210	Frankfurter or hot dog, with chili, no bun*
27120250	Frankfurters or hot dogs with tomato-based sauce*
27121410	Chili con carne with beans, made with pork*
27141030	Spaghetti sauce with poultry*
27141035	Spaghetti sauce with poultry and added vegetables*
27141500	Chili con carne with chicken or turkey and beans*
27150160	Shrimp with lobster sauce*
27160100	Meatballs, NS as to type of meat, with sauce*
27162040	Spaghetti sauce with meat*
27162060	Spaghetti sauce with meat and added vegetables*
27211550	Stewed, seasoned, ground beef with potatoes, Mexican style*
27212000	Beef and noodles, no sauce*
27212050	Beef and macaroni with cheese sauce*
27212100	Beef and noodles with tomato-based sauce*
27212120	Chili con carne with beans and macaroni*
27213120	Porcupine balls with tomato-based sauce*

Food use category and food code	Food description
27213150	Chili con carne with beans and rice*
27213600	Beef and rice with cheese sauce*
27214100	Meat loaf made with beef
27214110	Meat loaf made with beef, with tomato-based sauce
27220010	Meat loaf made with ham
27220120	Sausage and rice with tomato-based sauce*
27220170	Sausage and rice with cheese sauce*
27235000	Meat loaf made with venison/deer
27246300	Chicken or turkey cake, patty, or croquette
27246500	Meat loaf made with chicken or turkey
27246505	Meat loaf made with chicken or turkey, with tomato-based sauce
27250030	Codfish ball or cake
27250040	Crab cake
27250050	Fish cake or patty, NS as to fish
27250070	Salmon cake or patty
27250080	Salmon loaf
27250160	Tuna cake or patty
27250300	Mackerel cake or patty
27250400	Shrimp cake or patty
27250410	Shrimp with crab stuffing*
27250520	Seafood restructured
27260010	Meat loaf, NS as to type of meat
27260050	Meatballs, with breading, NS as to type of meat, with gravy*
27260080	Meat loaf made with beef and pork
27260100	Meat loaf made with beef and pork, with tomato-based sauce*
27261500	Stewed, seasoned, ground beef and pork with potatoes, Mexican style*
27315250	Stuffed cabbage rolls with beef and rice*
27315270	Stuffed grape leaves with beef and rice*
27320080	Sausage, noodles, and vegetables excluding carrots, broccoli, and dark-green leafy; tomato-based sauce*
27320120	Sausage, potatoes, and vegetables including carrots, broccoli, and/or dark-green leafy; gravy*
27330170	Stuffed grape leaves with lamb and rice*
27360090	Paella, NFS*
27363100	Jambalaya with meat and rice*
27416200	Beef, ground, with egg and onion*
27416300	Beef taco filling: beef, cheese, tomato, taco sauce*
27418110	Seasoned shredded soup meat
27420040	Frankfurters or hot dogs and sauerkraut*
27420460	Sausage and vegetables, excluding carrots, broccoli, and dark-green leafy; no potatoes, tomato-based sauce*
27420470	Sausage and peppers, no sauce*
27460510	Antipasto with ham, fish, cheese, vegetables*
27460710	Livers, chicken, chopped, with eggs and onion*
27500050	Sandwich, NFS*
27500100	Meat sandwich, NFS*
27510140	Cheeseburger slider, from fast food*
27510145	Cheeseburger, 1 miniature patty, with condiments, on miniature bun, from fast food / restaurant*
27510150	Cheeseburger, 1 miniature patty, on miniature bun, from school*

Food use category and food code	Food description
27510155	Cheeseburger, NFS*
27510160	Cheeseburger, from fast food, 1 small patty*
27510165	Cheeseburger, 1 small patty, with condiments, on bun, from fast food / restaurant*
27510170	Cheeseburger (Burger King)*
27510171	Whopper Jr with cheese (Burger King)*
27510172	Cheeseburger (McDonalds)*
27510173	Cheeseburger, 1 small patty, with condiments, on bun, from fast food / restaurant (Wendy's Kid's Cheeseburger)*
27510174	Cheeseburger, 1 small patty, with condiments, on bun, from fast food / restaurant (Wendy's Jr. Cheeseburger)*
27510175	Cheeseburger, 1 small patty, with condiments, on bun, from fast food / restaurant (Wendy's Jr. Cheeseburger Deluxe)*
27510190	Cheeseburger, from school cafeteria*
27510191	Cheeseburger slider*
27510195	Cheeseburger, on white bun, 1 small patty*
27510196	Cheeseburger, on wheat bun, 1 small patty*
27510205	Cheeseburger, 1 small patty, with condiments, on white bun*
27510206	Cheeseburger, 1 small patty, with condiments, on wheat bun*
27510207	Cheeseburger, 1 small patty, with condiments, on whole wheat bun*
27510215	Cheeseburger, from fast food, 1 medium patty*
27510225	Cheeseburger, 1 medium patty, with condiments, on bun, from fast food / restaurant*
27510229	Quarter Pounder (McDonalds)*
27510231	Whopper with cheese (Burger King)*
27510232	Quarter Pounder with cheese (McDonalds)*
27510233	Cheeseburger, 1 medium patty, with condiments, on bun, from fast food / restaurant (Wendy's 1/4 lb Single with cheese)*
27510235	Cheeseburger submarine sandwich with lettuce, tomato and spread*
27510241	Cheeseburger, on white bun, 1 medium patty*
27510242	Cheeseburger, on wheat bun, 1 medium patty*
27510243	Cheeseburger, 1 medium patty, plain, on whole wheat bun*
27510245	Cheeseburger, on white bun, 1 large patty*
27510246	Cheeseburger, on wheat bun, 1 large patty*
27510251	Cheeseburger, 1 medium patty, with condiments, on white bun*
27510252	Cheeseburger, 1 medium patty, with condiments, on wheat bun*
27510253	Cheeseburger, 1 medium patty, with condiments, on whole wheat bun*
27510254	Double cheeseburger, on white bun, 2 small patties*
27510257	Double cheeseburger, on white bun, 2 medium patties*
27510258	Double cheeseburger, on wheat bun, 2 medium patties*
27510261	Cheeseburger, from fast food, 1 large patty*
27510262	Double cheeseburger, on white bun, 2 large patties*
27510266	Cheeseburger, 1 large patty, with condiments, on bun, from fast food / restaurant*
27510276	Bacon cheeseburger, 1 small patty, with condiments, on bun, from fast food / restaurant*
27510281	Bacon cheeseburger, 1 small patty, with condiments, on bun, from fast food / restaurant (Wendy's Jr. Bacon Cheeseburger)*
27510305	Bacon cheeseburger, 1 medium patty, plain, on bun, from fast food / restaurant*
27510312	Bacon cheeseburger, 1 medium patty, with condiments, on bun, from fast food / restaurant*
27510331	Bacon cheeseburger, 1 medium patty, plain, on white bun*
27510341	Bacon cheeseburger, 1 medium patty, with condiments, on white bun*

Food use category and food code	Food description
27510342	Bacon cheeseburger, 1 medium patty, with condiments, on wheat bun*
27510343	Bacon cheeseburger, 1 medium patty, with condiments, on whole wheat bun*
27510346	Bacon cheeseburger, 1 large patty, with condiments, on bun, from fast food / restaurant*
27510371	Double cheeseburger, from fast food, 2 small patties*
27510376	Double cheeseburger, 2 small patties, with condiments, on bun, from fast food / restaurant*
27510386	Double cheeseburger (Burger King)*
27510387	Double cheeseburger (McDonalds)*
27510388	McDouble (McDonalds)*
27510389	Big Mac (McDonalds)*
27510391	Double cheeseburger, 2 small patties, with condiments, on bun, from fast food / restaurant (Wendy's Double Stack)*
27510401	Double cheeseburger, from fast food, 2 medium patties*
27510405	Double cheeseburger, from fast food, 2 large patties*
27510406	Double cheeseburger, 2 medium patties, with condiments, on bun, from fast food / restaurant*
27510412	Double cheeseburger, 2 medium patties, with condiments, on bun, from fast food / restaurant (McDonald's Double Quarter Pounder with Cheese)*
27510413	Double cheeseburger, 2 medium patties, with condiments, on bun, from fast food / restaurant (Wendy's 1/2 lb Double with cheese)*
27510431	Double bacon cheeseburger, 2 small patties, with condiments, on bun, from fast food / restaurant (Burger King Bacon Double Cheeseburger)*
27510446	Double bacon cheeseburger, 2 medium patties, plain, on bun, from fast food / restaurant*
27510451	Double bacon cheeseburger, 2 medium patties, with condiments, on bun, from fast food / restaurant*
27510465	Double bacon cheeseburger, 2 medium patties, with condiments, on bun, from fast food / restaurant (Wendy's Baconator)*
27510475	Double bacon cheeseburger, 2 large patties, with condiments, on bun, from fast food / restaurant*
27510486	Triple cheeseburger, 3 medium patties, with condiments, on bun, from fast food / restaurant*
27510501	Hamburger slider, from fast food*
27510506	Hamburger, 1 miniature patty, with condiments, on miniature bun, from fast food / restaurant*
27510511	Hamburger, 1 miniature patty, on miniature bun, from school*
27510531	Hamburger, from fast food, 1 small patty*
27510536	Hamburger, 1 small patty, with condiments, on bun, from fast food / restaurant*
27510551	Hamburger (Burger King)*
27510552	Whopper Jr (Burger King)*
27510553	Hamburger (McDonalds)*
27510555	Hamburger, 1 small patty, with condiments, on bun, from fast food / restaurant (Wendy's Jr. Hamburger)*
27510565	Hamburger, from school cafeteria*
27510573	Hamburger slider*
27510575	Hamburger, on white bun, 1 small patty*
27510576	Hamburger, on wheat bun, 1 small patty*
27510577	Hamburger, 1 small patty, plain, on whole wheat bun*
27510585	Hamburger, 1 small patty, with condiments, on white bun*
27510587	Hamburger, 1 small patty, with condiments, on whole wheat bun*
27510601	Hamburger, from fast food, 1 medium patty*
27510605	Hamburger, from fast food, 1 large patty*
27510606	Hamburger, 1 medium patty, with condiments, on bun, from fast food / restaurant*
27510615	Whopper (Burger King)*

Food use category and food code	Food description
27510616	Hamburger, 1 medium patty, with condiments, on bun, from fast food / restaurant (Wendy's 1/4 lb Single)*
27510631	Hamburger, on white bun, 1 medium patty*
27510632	Hamburger, on wheat bun, 1 medium patty*
27510633	Hamburger, 1 medium patty, plain, on whole wheat bun*
27510635	Hamburger, on white bun, 1 large patty*
27510636	Hamburger, on wheat bun, 1 large patty*
27510641	Hamburger, 1 medium patty, with condiments, on white bun*
27510642	Hamburger, 1 medium patty, with condiments, on wheat bun*
27510643	Hamburger, 1 medium patty, with condiments, on whole wheat bun*
27510649	Double hamburger, on white bun, 2 small patties*
27510655	Double hamburger, on white bun, 2 medium patties*
27510657	Double hamburger, on wheat bun, 2 medium patties*
27510658	Double hamburger, on white bun, 2 large patties*
27510661	Double hamburger, from fast food, 2 small patties*
27510667	Double hamburger, 2 small patties, with condiments, on bun, from fast food / restaurant*
27510671	Double hamburger, from fast food, 2 medium patties*
27510675	Double hamburger, from fast food, 2 large patties*
27510676	Double hamburger, 2 medium patties, with condiments, on bun, from fast food / restaurant*
27510681	Double hamburger, 2 medium patties, with condiments, on bun, from fast food / restaurant (Burger King Double WHOPPER)*
27510682	Double hamburger, 2 medium patties, with condiments, on bun, from fast food / restaurant (Wendy's 1/2 lb Double)*
27510705	Chiliburger, with or without cheese, on bun*
27517000	Hamburger wrap sandwich, from fast food*
27540120	Chicken salad or chicken spread sandwich*
27540170	Chicken patty sandwich, miniature, with spread*
27540180	Chicken patty sandwich or biscuit*
27540190	Chicken patty sandwich, with lettuce and spread*
27545000	Turkey or chicken burger, plain, on bun, from fast food / restaurant*
27545010	Turkey or chicken burger, with condiments, on bun, from fast food / restaurant*
27545100	Turkey or chicken burger, on white bun*
27545110	Turkey or chicken burger, on wheat bun*
27545200	Turkey or chicken burger, with condiments, on white bun*
27545210	Turkey or chicken burger, with condiments, on wheat bun*
27545220	Turkey or chicken burger, with condiments, on whole wheat bun*
27550110	Crab cake sandwich*
27550120	Salmon cake sandwich*
27560120	Bologna and cheese sandwich, with spread*
27560300	Corn dog, frankfurter or hot dog with cornbread coating*
27560350	Pig in a blanket, frankfurter or hot dog wrapped in dough*
27560500	Pepperoni and salami submarine sandwich, with lettuce, tomato and spread*
27560650	Sausage on biscuit*
27560660	Sausage griddle cake sandwich*
27560670	Sausage and cheese on English muffin*
27560705	Sausage balls, made with biscuit mix and cheese*
27560710	Sausage sandwich*
27564000	Frankfurter or hot dog sandwich, NFS, plain, on white bun*

Food use category and food code	Food description
27564001	Frankfurter or hot dog sandwich, NFS, plain, on wheat bun*
27564002	Frankfurter or hot dog sandwich, NFS, plain, on whole wheat bun*
27564010	Frankfurter or hot dog sandwich, NFS, plain, on white bread*
27564020	Frankfurter or hot dog sandwich, NFS, plain, on wheat bread*
27564030	Frankfurter or hot dog sandwich, NFS, plain, on whole wheat bread*
27564060	Frankfurter or hot dog sandwich, beef, plain, on white bun*
27564061	Frankfurter or hot dog sandwich, beef, plain, on wheat bun*
27564062	Frankfurter or hot dog sandwich, beef, plain, on whole wheat bun*
27564064	Frankfurter or hot dog sandwich, beef, plain, on multigrain bun*
27564070	Frankfurter or hot dog sandwich, beef, plain, on white bread*
27564080	Frankfurter or hot dog sandwich, beef, plain, on wheat bread*
27564090	Frankfurter or hot dog sandwich, beef, plain, on whole wheat bread*
27564100	Frankfurter or hot dog sandwich, beef, plain, on whole grain white bread*
27564110	Frankfurter or hot dog sandwich, beef, plain, on multigrain bread*
27564120	Frankfurter or hot dog sandwich, beef and pork, plain, on white bun*
27564121	Frankfurter or hot dog sandwich, beef and pork, plain, on wheat bun*
27564122	Frankfurter or hot dog sandwich, beef and pork, plain, on whole wheat bun*
27564130	Frankfurter or hot dog sandwich, beef and pork, plain, on white bread*
27564140	Frankfurter or hot dog sandwich, beef and pork, plain, on wheat bread*
27564150	Frankfurter or hot dog sandwich, beef and pork, plain, on whole wheat bread*
27564180	Frankfurter or hot dog sandwich, meat and poultry, plain, on white bun*
27564182	Frankfurter or hot dog sandwich, meat and poultry, plain, on whole wheat bun*
27564190	Frankfurter or hot dog sandwich, meat and poultry, plain, on white bread*
27564200	Frankfurter or hot dog sandwich, meat and poultry, plain, on wheat bread*
27564210	Frankfurter or hot dog sandwich, meat and poultry, plain, on whole wheat bread*
27564220	Frankfurter or hot dog sandwich, meat and poultry, plain, on whole grain white bread*
27564240	Frankfurter or hot dog sandwich, chicken and/or turkey, plain, on white bun*
27564241	Frankfurter or hot dog sandwich, chicken and/or turkey, plain, on wheat bun*
27564243	Frankfurter or hot dog sandwich, chicken and/or turkey, plain, on whole grain white bun*
27564250	Frankfurter or hot dog sandwich, chicken and/or turkey, plain, on white bread*
27564260	Frankfurter or hot dog sandwich, chicken and/or turkey, plain, on wheat bread*
27564270	Frankfurter or hot dog sandwich, chicken and/or turkey, plain, on whole wheat bread*
27564290	Frankfurter or hot dog sandwich, chicken and/or turkey, plain, on multigrain bread*
27564300	Frankfurter or hot dog sandwich, reduced fat or light, plain, on white bun*
27564301	Frankfurter or hot dog sandwich, reduced fat or light, plain, on wheat bun*
27564330	Frankfurter or hot dog sandwich, reduced fat or light, plain, on whole wheat bread*
27564360	Frankfurter or hot dog sandwich, fat free, plain, on white bun*
27564370	Frankfurter or hot dog sandwich, fat free, plain, on white bread*
27564380	Frankfurter or hot dog sandwich, fat free, plain, on wheat bread*
27564418	Frankfurter or hot dog sandwich, reduced sodium*
27564440	Frankfurter or hot dog sandwich, with chili, on white bun*
27564441	Frankfurter or hot dog sandwich, with chili, on wheat bun*
27564442	Frankfurter or hot dog sandwich, with chili, on whole wheat bun*
27564443	Frankfurter or hot dog sandwich, with chili, on whole grain white bun*
27564450	Frankfurter or hot dog sandwich, with chili, on white bread*
27564500	Frankfurter or hot dog sandwich, with meatless chili, on white bun*
27564510	Frankfurter or hot dog sandwich, with meatless chili, on white bread*
27564520	Frankfurter or hot dog sandwich, with meatless chili, on wheat bread*

Food use category and food code	Food description
28101000	Frozen dinner, NFS*
28110150	Beef with vegetable, diet frozen meal*
28110220	Sirloin, chopped, with gravy, mashed potatoes, vegetable, frozen meal*
28110300	Salisbury steak dinner, NFS, frozen meal*
28110310	Salisbury steak with gravy, potatoes, vegetable, frozen meal*
28110330	Salisbury steak with gravy, whipped potatoes, vegetable, dessert, frozen meal*
28110350	Salisbury steak with gravy, potatoes, vegetable, dessert, frozen meal*
28110380	Salisbury steak with gravy, macaroni and cheese, frozen meal*
28110390	Salisbury steak, potatoes, vegetable, dessert, diet frozen meal*
28110660	Meatballs, Swedish, in gravy, with noodles, diet frozen meal*
28140720	Chicken patty, or nuggets, boneless, breaded, potatoes, vegetable, frozen meal*
28140740	Chicken patty or nuggets, boneless, breaded, with pasta and tomato sauce, fruit, dessert, frozen meal*
28141050	Chicken patty parmigiana, breaded, with vegetable, diet frozen meal*
28160310	Meat loaf with potatoes, vegetable, frozen meal*
28160650	Stuffed green pepper, frozen meal*
28310230	Meatball soup, home recipe, Mexican style*
28315160	Italian Wedding Soup*
32105190	Egg casserole with bread, cheese, milk and meat*
32130190	Egg omelet or scrambled egg, with meat, NS as to fat*
32130200	Egg omelet or scrambled egg, with meat, made with margarine*
32130210	Egg omelet or scrambled egg, with meat, made with oil*
32130220	Egg omelet or scrambled egg, with meat, made with butter*
32130240	Egg omelet or scrambled egg, with meat, made with animal fat or meat drippings*
32130260	Egg omelet or scrambled egg, with meat, made with cooking spray*
32130265	Egg omelet or scrambled egg, with meat, NS as to fat type*
32130270	Egg omelet or scrambled egg, with meat, no added fat*
32130290	Egg omelet or scrambled egg, with cheese and meat, NS as to fat*
32130300	Egg omelet or scrambled egg, with cheese and meat, made with margarine*
32130310	Egg omelet or scrambled egg, with cheese and meat, made with oil*
32130320	Egg omelet or scrambled egg, with cheese and meat, made with butter*
32130360	Egg omelet or scrambled egg, with cheese and meat, made with cooking spray*
32130365	Egg omelet or scrambled egg, with cheese and meat, NS as to fat type*
32130370	Egg omelet or scrambled egg, with cheese and meat, no added fat*
32130800	Egg omelet or scrambled egg, with meat and tomatoes, fat added*
32130810	Egg omelet or scrambled egg, with meat and tomatoes, no added fat*
32130820	Egg omelet or scrambled egg, with meat and tomatoes, NS as to fat*
32130830	Egg omelet or scrambled egg, with meat and dark-green vegetables, fat added*
32130840	Egg omelet or scrambled egg, with meat and dark-green vegetables, no added fat*
32130850	Egg omelet or scrambled egg, with meat and dark-green vegetables, NS as to fat*
32130890	Egg omelet or scrambled egg, with meat and vegetables other than dark-green and/or tomatoes, fat added*
32130900	Egg omelet or scrambled egg, with meat and vegetables other than dark-green and/or tomatoes, no added fat*
32130910	Egg omelet or scrambled egg, with meat and vegetables other than dark-green and/or tomatoes, NS as to fat*
32131000	Egg omelet or scrambled egg, with cheese, meat, and tomatoes, fat added*
32131010	Egg omelet or scrambled egg, with cheese, meat, and tomatoes, no added fat*

Food use category and food code	Food description
32131020	Egg omelet or scrambled egg, with cheese, meat, and tomatoes, NS as to fat*
32131030	Egg omelet or scrambled egg, with cheese, meat, and dark-green vegetables, fat added*
32131040	Egg omelet or scrambled egg, with cheese, meat, and dark-green vegetables, no added fat*
32131050	Egg omelet or scrambled egg, with cheese, meat, and dark-green vegetables, NS as to fat*
32131060	Egg omelet or scrambled egg, with cheese, meat, tomatoes, and dark-green vegetables, fat added*
32131070	Egg omelet or scrambled egg, with cheese, meat, tomatoes, and dark-green vegetables, no added fat*
32131080	Egg omelet or scrambled egg, with cheese, meat, tomatoes, and dark-green vegetables, NS as to fat*
32131090	Egg omelet or scrambled egg, with cheese, meat, and vegetables other than dark-green and/or tomatoes, fat added*
32131100	Egg omelet or scrambled egg, with cheese, meat, and vegetables other than dark-green and/or tomatoes, no added fat*
32131110	Egg omelet or scrambled egg, with cheese, meat, and vegetables other than dark-green and/or tomatoes, NS as to fat*
32202030	Egg, cheese, and sausage on English muffin*
32202034	Egg, cheese, and sausage on bun*
32202035	Egg, extra cheese, and extra sausage, on bun*
32202050	Egg, cheese, and sausage on biscuit*
32202055	Egg, cheese, and sausage griddle cake sandwich*
32202060	Egg and sausage on biscuit*
32202120	Egg, cheese and sausage on bagel*
32400200	Egg white, omelet, scrambled, or fried, with meat*
32400210	Egg white, omelet, scrambled, or fried, with meat, fat not added in cooking*
32400400	Egg white, omelet, scrambled, or fried, with cheese and meat*
32400600	Egg white, omelet, scrambled, or fried, with meat and vegetables*
32400610	Egg white, omelet, scrambled, or fried, with meat and vegetables, fat not added in cooking*
32400620	Egg white, omelet, scrambled, or fried, with meat and vegetables, NS as to fat added in cooking*
32400700	Egg white, omelet, scrambled, or fried, with cheese, meat, and vegetables*
32400710	Egg white, omelet, scrambled, or fried, with cheese, meat, and vegetables, fat not added in cooking*
33401100	Egg substitute, omelet, scrambled, or fried, with meat*
33401300	Egg substitute, omelet, scrambled, or fried, with cheese and meat*
33401310	Egg substitute, omelet, scrambled, or fried, with cheese and meat, fat not added in cooking*
33401500	Egg substitute, omelet, scrambled, or fried, with meat and vegetables*
33401600	Egg substitute, omelet, scrambled, or fried, with cheese, meat, and vegetables*
41206030	Beans and franks*
41207030	Beans, dry, cooked with ground beef*
54408430	Pretzels, soft, ready-to-eat, topped with meat*
58100010	Burrito, taco, or quesadilla with egg and breakfast meat*
58100013	Burrito, taco, or quesadilla with egg and breakfast meat, from fast food*
58100015	Burrito, taco, or quesadilla with egg, potato, and breakfast meat*
58100017	Burrito, taco, or quesadilla with egg, potato, and breakfast meat, from fast food*
58100020	Burrito, taco, or quesadilla with egg, beans, and breakfast meat*
58100100	Burrito with meat*
58100120	Burrito with meat and beans*
58100125	Burrito with meat and beans, from fast food*

Food use category and food code	Food description
58100135	Burrito with meat and sour cream*
58100140	Burrito with meat, beans, and sour cream*
58100145	Burrito with meat, beans, and sour cream, from fast food*
58100160	Burrito with meat, beans, and rice*
58100165	Burrito with meat, beans, rice, and sour cream*
58101320	Taco or tostada with meat*
58101323	Taco or tostada with meat, from fast food*
58101325	Taco or tostada with meat and sour cream*
58101345	Soft taco with meat*
58101347	Soft taco with meat, from fast food*
58101350	Soft taco with meat and sour cream*
58101357	Soft taco with meat and sour cream, from fast food*
58101620	Soft taco with meat and beans*
58101630	Soft taco with meat, beans, and sour cream*
58101730	Taco or tostada with meat and beans*
58101733	Taco or tostada with meat and beans, from fast food*
58101745	Taco or tostada with meat, beans, and sour cream*
58101800	Ground beef with tomato sauce and taco seasonings on a cornbread crust*
58101820	Mexican casserole made with ground beef, beans, tomato sauce, cheese, taco seasonings, and corn chips*
58101830	Mexican casserole made with ground beef, tomato sauce, cheese, taco seasonings, and corn chips*
58101930	Taco or tostada salad with meat*
58101945	Taco or tostada salad with meat and sour cream*
58103310	Tamale casserole with meat*
58104130	Nachos with meat and cheese*
58104160	Nachos with chili*
58104180	Nachos with meat, cheese, and sour cream*
58104280	Gordita, sope, or chalupa with meat and sour cream*
58104290	Gordita, sope, or chalupa with meat*
58104500	Chimichanga with meat*
58104535	Chimichanga with meat and sour cream*
58104820	Taquito or flauta with meat*
58104825	Taquito or flauta with meat and cheese*
58105110	Pupusa, meat-filled*
58106512	Pizza with pepperoni, from frozen, thin crust*
58106514	Pizza with pepperoni, from frozen, medium crust*
58106516	Pizza with pepperoni, from frozen, thick crust*
58106540	Pizza with pepperoni, from restaurant or fast food, NS as to type of crust*
58106550	Pizza with pepperoni, from restaurant or fast food, thin crust*
58106555	Pizza with pepperoni, from restaurant or fast food, medium crust*
58106560	Pizza with pepperoni, from restaurant or fast food, thick crust*
58106565	Pizza with pepperoni, stuffed crust*
58106570	Pizza with pepperoni, from school lunch, thin crust*
58106578	Pizza, with pepperoni, from school lunch, medium crust*
58106580	Pizza with pepperoni, from school lunch, thick crust*
58106602	Pizza with meat other than pepperoni, from frozen, thin crust*
58106604	Pizza with meat other than pepperoni, from frozen, medium crust*

Food use category and food code	Food description
58106606	Pizza with meat other than pepperoni, from frozen, thick crust*
58106610	Pizza with meat other than pepperoni, from restaurant or fast food, NS as to type of crust*
58106620	Pizza with meat other than pepperoni, from restaurant or fast food, thin crust*
58106625	Pizza with meat other than pepperoni, from restaurant or fast food, medium crust*
58106630	Pizza with meat other than pepperoni, from restaurant or fast food, thick crust*
58106633	Pizza, with meat other than pepperoni, stuffed crust*
58106634	Pizza, with meat other than pepperoni, from school lunch, medium crust*
58106635	Pizza, with meat other than pepperoni, from school lunch, thin crust*
58106636	Pizza, with meat other than pepperoni, from school lunch, thick crust*
58106650	Pizza with extra meat, thin crust*
58106655	Pizza with extra meat, medium crust*
58106660	Pizza with extra meat, thick crust*
58106700	Pizza with meat and vegetables, from frozen, thin crust*
58106702	Pizza with meat and vegetables, from frozen, medium crust*
58106705	Pizza with meat and vegetables, from frozen, thick crust*
58106720	Pizza with meat and vegetables, from restaurant or fast food, thin crust*
58106725	Pizza with meat and vegetables, from restaurant or fast food, medium crust*
58106730	Pizza with meat and vegetables, from restaurant or fast food, thick crust*
58106736	Pizza with extra meat and extra vegetables, thin crust*
58106737	Pizza with extra meat and extra vegetables, thick crust*
58106738	Pizza with extra meat and extra vegetables, medium crust*
58107050	Pizza, no cheese, thin crust*
58107222	White pizza, cheese, with meat, thin crust*
58107224	White pizza, cheese, with meat, thick crust*
58107232	White pizza, cheese, with meat and vegetables, thin crust*
58108010	Calzone, with meat and cheese*
58109030	Pizza, with meat, whole wheat thin crust*
58109040	Pizza, with meat, whole wheat thick crust*
58109120	Pizza, with meat, gluten-free thin crust*
58109130	Pizza, with meat, gluten-free thick crust*
58116210	Meat pie, Puerto Rican style*
58117310	Kibby, Puerto Rican style*
58117410	Codfish fritter, Puerto Rican style
58122330	Knish, meat*
58124230	Pastry, meat / poultry-filled*
58126000	Turnover filled with ground beef and cabbage*
58127270	Croissant sandwich with sausage and egg*
58127330	Croissant sandwich with sausage, egg, and cheese*
58128000	Biscuit with gravy*
58128250	Dressing with meat and vegetables*
58130011	Lasagna with meat*
58130013	Lasagna with meat, canned*
58130014	Lasagna with meat, from restaurant*
58130015	Lasagna with meat, home recipe*
58130016	Lasagna with meat, frozen*
58130020	Lasagna with meat and spinach*
58130140	Lasagna with chicken or turkey*
58130150	Lasagna, with chicken or turkey, and spinach*

Food use category and food code	Food description
58131110	Ravioli, NS as to filling, with tomato sauce*
58131120	Ravioli, NS as to filling, with cream sauce*
58131310	Ravioli, meat-filled, no sauce*
58131320	Ravioli, meat-filled, with tomato sauce or meat sauce*
58131323	Ravioli, meat-filled, with tomato sauce or meat sauce, canned*
58131330	Ravioli, meat-filled, with cream sauce*
58134130	Stuffed shells, cheese-filled, with meat sauce*
58134610	Tortellini, meat-filled, with tomato sauce*
58134613	Tortellini, meat-filled, with tomato sauce, canned*
58134650	Tortellini, meat-filled, no sauce*
58134710	Tortellini, spinach-filled, with tomato sauce*
58134720	Tortellini, spinach-filled, no sauce*
58145135	Macaroni or noodles with cheese and meat*
58145136	Macaroni or noodles with cheese and meat, prepared from Hamburger Helper mix*
58145160	Macaroni or noodles with cheese and frankfurters or hot dogs*
58146120	Pasta with tomato-based sauce, cheese and meat*
58146210	Pasta with sauce, NFS*
58146315	Pasta with sauce and meat, from school lunch*
58146321	Pasta with tomato-based sauce and meat, restaurant*
58146322	Pasta with tomato-based sauce and meat, home recipe*
58146323	Pasta with tomato-based sauce and meat, ready-to-heat*
58146331	Pasta with tomato-based sauce, meat, and added vegetables, restaurant*
58146332	Pasta with tomato-based sauce, meat, and added vegetables, home recipe*
58146333	Pasta with tomato-based sauce, meat, and added vegetables, ready-to-heat*
58146341	Pasta with tomato-based sauce and poultry, restaurant*
58146342	Pasta with tomato-based sauce and poultry, home recipe*
58146343	Pasta with tomato-based sauce and poultry, ready-to-heat*
58146351	Pasta with tomato-based sauce, poultry, and added vegetables, restaurant*
58146352	Pasta with tomato-based sauce, poultry, and added vegetables, home recipe*
58146353	Pasta with tomato-based sauce, poultry, and added vegetables, ready-to-heat*
58146401	Pasta with cream sauce and meat, restaurant*
58146402	Pasta with cream sauce and meat, home recipe*
58146403	Pasta with cream sauce and meat, ready-to-heat*
58146411	Pasta with cream sauce, meat, and added vegetables, restaurant*
58146412	Pasta with cream sauce, meat, and added vegetables, home recipe*
58146413	Pasta with cream sauce, meat, and added vegetables, ready-to-heat*
58146421	Pasta with cream sauce and poultry, restaurant*
58146422	Pasta with cream sauce and poultry, home recipe*
58146423	Pasta with cream sauce and poultry, ready-to-heat*
58146431	Pasta with cream sauce, poultry, and added vegetables, restaurant*
58146432	Pasta with cream sauce, poultry, and added vegetables, home recipe*
58146433	Pasta with cream sauce, poultry, and added vegetables, ready-to-heat*
58146622	Pasta, whole grain, with tomato-based sauce and meat, home recipe*
58146623	Pasta, whole grain, with tomato-based sauce and meat, ready-to-heat*
58146632	Pasta, whole grain, with tomato-based sauce, meat, and added vegetables, home recipe*
58146641	Pasta, whole grain, with tomato-based sauce and poultry, restaurant*
58146642	Pasta, whole grain, with tomato-based sauce and poultry, home recipe*
58146652	Pasta, whole grain, with tomato-based sauce, poultry, and added vegetables, home recipe*

Food use category and food code	Food description
58146653	Pasta, whole grain, with tomato-based sauce, poultry, and added vegetables, ready-to-heat*
58146702	Pasta, whole grain, with cream sauce and meat, home recipe*
58146713	Pasta, whole grain, with cream sauce, meat, and added vegetables, ready-to-heat*
58146722	Pasta, whole grain, with cream sauce and poultry, home recipe*
58146723	Pasta, whole grain, with cream sauce and poultry, ready-to-heat*
58146732	Pasta, whole grain, with cream sauce, poultry, and added vegetables, home recipe*
58146733	Pasta, whole grain, with cream sauce, poultry, and added vegetables, ready-to-heat*
58160135	Rice with beans and beef*
58162090	Stuffed pepper, with meat*
58162110	Stuffed pepper, with rice and meat*
58163450	Spanish rice with ground beef*
58301050	Lasagna with cheese and meat sauce, diet frozen meal*
58302050	Beef and noodles with meat sauce and cheese, diet frozen meal*
58304010	Spaghetti and meatballs dinner, NFS, frozen meal*
58304060	Spaghetti with meat sauce, diet frozen meal*
58306020	Beef enchilada, chili gravy, rice, refried beans, frozen meal*
58310210	Sausage and french toast, frozen meal*
58310310	Pancakes and sausage, frozen meal*
75410530	Chiles rellenos, filled with meat and cheese*
75414020	Mushrooms, stuffed*
77121010	Fried stuffed potatoes, Puerto Rican style*
77205110	Ripe plantain fritters, Puerto Rican style*
77250110	Stuffed tannier fritters, Puerto Rican style
77316010	Stuffed cabbage, with meat, Puerto Rican style*
77316510	Stuffed cabbage, with meat and rice, Syrian dish, Puerto Rican style*
77316600	Eggplant and meat casserole*
77513010	Spanish stew*
Dairy analogs	
11320000	Soy milk
11320100	Soy milk, light
11320200	Soy milk, nonfat
11321000	Soy milk, chocolate
11321100	Soy milk, light, chocolate
11321200	Soy milk, nonfat, chocolate
11350000	Almond milk, sweetened
11350010	Almond milk, sweetened, chocolate
11350020	Almond milk, unsweetened
11350030	Almond milk, unsweetened, chocolate
11360000	Rice milk
11370000	Coconut milk
11400000	Yogurt, NFS
11400010	Yogurt, Greek, NS as to type of milk or flavor
11410000	Yogurt, NS as to type of milk or flavor
11411010	Yogurt, NS as to type of milk, plain
11411390	Yogurt, Greek, NS as to type of milk, plain
11430000	Yogurt, NS as to type of milk, fruit
11433990	Yogurt, Greek, NS as to type of milk, fruit
11434090	Yogurt, NS as to type of milk, flavors other than fruit

Food use category and food code	Food description
11435000	Yogurt, Greek, NS as to type of milk, flavors other than fruit
11459990	Frozen yogurt, NFS
11460000	Frozen yogurt, vanilla
11460100	Frozen yogurt, chocolate
11460160	Yogurt, frozen, chocolate, lowfat milk
11460170	Yogurt, frozen, flavors other than chocolate, lowfat milk
11460200	Yogurt, frozen, chocolate, nonfat milk
11460250	Yogurt, frozen, flavors other than chocolate, with sorbet or sorbet-coated
11460300	Yogurt, frozen, flavors other than chocolate, nonfat milk
11460400	Yogurt, frozen, chocolate, nonfat milk, with low-calorie sweetener
11460410	Yogurt, frozen, flavors other than chocolate, nonfat milk, with low-calorie sweetener
11460500	Frozen yogurt, soft serve, vanilla
11460510	Frozen yogurt, soft serve, chocolate
11461000	Yogurt, frozen, chocolate-coated
11461200	Frozen yogurt sandwich
11461210	Frozen yogurt bar, vanilla
11461250	Frozen yogurt cone, chocolate
11461260	Frozen yogurt cone, vanilla
11461270	Yogurt, frozen, cone, flavors other than chocolate, lowfat milk
11461300	Frozen yogurt cone, vanilla, waffle cone
11512030	Hot chocolate / Cocoa, ready to drink, made with non-dairy milk
11513310	Chocolate milk, made from dry mix with non-dairy milk
11513395	Chocolate milk, made from no sugar added dry mix with non-dairy milk (Nesquik)
11513750	Chocolate milk, made from syrup with non-dairy milk
11514150	Hot chocolate / Cocoa, made with dry mix and non-dairy milk
11514360	Hot chocolate / Cocoa, made with no sugar added dry mix and non-dairy milk
12200100	Coffee creamer, NFS
12210200	Coffee creamer, liquid
12210210	Coffee creamer, liquid, flavored
12210260	Coffee creamer, liquid, fat free
12210270	Coffee creamer, liquid, fat free, flavored
12210280	Coffee creamer, liquid, fat free, sugar free, flavored
12210310	Coffee creamer, liquid, sugar free, flavored
12210400	Coffee creamer, powder
12210420	Coffee creamer, powder, flavored
12210430	Coffee creamer, powder, fat free
12210440	Coffee creamer,powder, fat free, flavored
12210505	Coffee creamer,powder, sugar free, flavored
12210520	Coffee creamer, soy, liquid
12220200	Whipped topping
12220270	Whipped topping, fat free
12220280	Whipped topping, sugar free
13110000	Ice cream, NFS
13110100	Ice cream, vanilla
13110102	Ice cream, vanilla, with additional ingredients
13110110	Ice cream, chocolate
13110112	Ice cream, chocolate, with additional ingredients
13110120	Ice cream, rich, flavors other than chocolate

Food use category and food code	Food description
13110130	Ice cream, rich, chocolate
13110200	Ice cream, soft serve, vanilla
13110210	Ice cream, soft serve, chocolate
13110220	Ice cream, soft serve, NS as to flavor
13110320	Ice cream, no sugar added, flavors other than chocolate
13110330	Ice cream, no sugar added, chocolate
13110460	Gelato, vanilla
13110470	Gelato, chocolate
13120050	Ice cream bar, vanilla
13120100	Ice cream bar, vanilla, chocolate coated
13120110	Ice cream candy bar
13120120	Ice cream bar or stick, rich chocolate ice cream, thick chocolate covering
13120121	Ice cream bar or stick, rich ice cream, thick chocolate covering
13120130	Ice cream bar or stick, rich ice cream, chocolate covered, with nuts
13120140	Ice cream bar, chocolate
13120300	Ice cream bar, cake covered
13120310	Ice cream bar, stick or nugget, with crunch coating
13120400	Ice cream bar or stick with fruit
13120500	Ice cream sandwich, vanilla
13120510	Ice cream sandwich, chocolate
13120550	Ice cream cookie sandwich
13120700	Ice cream cone with nuts, flavors other than chocolate
13120710	Ice cream cone, chocolate covered, with nuts, flavors other than chocolate
13120720	Ice cream cone, chocolate covered or dipped, flavors other than chocolate
13120730	Ice cream cone, scooped, vanilla
13120735	Ice cream cone, scooped, vanilla, waffle cone
13120740	Ice cream cone, NFS
13120760	Ice cream cone, chocolate covered or dipped, chocolate ice cream
13120770	Ice cream cone, scooped, chocolate
13120775	Ice cream cone, scooped, chocolate, waffle cone
13120782	Ice cream cone, soft serve, vanilla
13120784	Ice cream cone, soft serve, chocolate
13120786	Ice cream cone, soft serve, vanilla, waffle cone
13120788	Ice cream cone, soft serve, chocolate, waffle cone
13120790	Ice cream cone, vanilla, prepackaged
13120792	Ice cream cone, chocolate, prepackaged
13120800	Ice cream soda, flavors other than chocolate*
13120810	Ice cream soda, chocolate*
13121000	Ice cream sundae, NFS
13121100	Ice cream sundae, fruit topping
13121120	Banana split
13121300	Ice cream sundae, hot fudge topping
13121400	Ice cream sundae, caramel topping
13122100	Ice cream pie, no crust
13127000	Dippin' Dots, flash frozen ice cream snacks, flavors other than chocolate
13127010	Dippin' Dots, flash frozen ice cream snacks, chocolate
13130300	Light ice cream, vanilla
13130310	Light ice cream, chocolate

Food use category and food code	Food description
13130320	Light ice cream, no sugar added, NS as to flavor
13130330	Light ice cream, no sugar added, flavors other than chocolate
13130340	Light ice cream, no sugar added, chocolate
13130600	Light ice cream, soft serve, flavors other than chocolate
13130620	Light ice cream, soft serve cone, flavors other than chocolate
13130630	Light ice cream, soft serve cone, chocolate
13130700	Soft serve, blended with candy or cookies, from fast food
13135000	Light ice cream sandwich, vanilla
13135010	Light ice cream sandwich, chocolate
13136000	Ice cream sandwich, made with light, no sugar added ice cream
13140000	Light ice cream bar, vanilla
13140100	Light ice cream bar, vanilla, chocolate coated
13140115	Light ice cream bar, chocolate
13140500	Light ice cream, cone, flavors other than chocolate
13140575	Light ice cream, no sugar added, cone, flavors other than chocolate
13140580	Light ice cream, no sugar added, cone, chocolate
13140660	Light ice cream, sundae, soft serve, chocolate or fudge topping, without whipped cream
13140700	Creamsicle
13140900	Fudgesicle
13142100	Light ice cream cone, vanilla, prepackaged
13142110	Light ice cream cone, chocolate, prepackaged
13150000	Sherbet, all flavors
13160160	Fat free ice cream, no sugar added, flavors other than chocolate
13160400	Fat free ice cream, flavors other than chocolate
13160410	Fat free ice cream, chocolate
13161500	Milk dessert sandwich bar, frozen, made from lowfat milk
13161600	Fudgesicle, light
13161630	Light ice cream, bar or stick, with low-calorie sweetener, chocolate coated
13252600	Tiramisu*
14010000	Cheese, NFS
14301010	Cream cheese, regular, plain
14301100	Cream cheese, regular, flavored
14303010	Cream cheese, light
14410380	Cream cheese spread, fat free
14410600	Cheese, processed, with vegetables*
14420200	Cheese spread, cream cheese, regular
14420210	Cheese spread, cream cheese, light
14502000	Imitation cheese
14610520	Cheese ball*
27500300	Wrap sandwich, NFS*
41420380	Yogurt, soy
41480020	Frozen dessert, non-dairy
42401100	Yogurt, coconut milk
53102200	Cake or cupcake, applesauce, with icing or filling*
53102700	Cake or cupcake, banana, with icing or filling*
53104260	Cake or cupcake, carrot, with icing or filling*
53112000	Cake, ice cream and cake roll, chocolate*
53112100	Ice cream cake*

Food use category and food code	Food description
53116510	Cake or cupcake, pumpkin, with icing or filling*
53117200	Cake or cupcake, spice, with icing or filling*
53124110	Cake or cupcake, zucchini*
53344200	Mixed fruit tart filled with custard or cream cheese*
56201360	Grits, instant, made with non-dairy milk, fat added*
56203075	Oatmeal, regular or quick, made with non-dairy milk, NS as to fat*
56203076	Oatmeal, regular or quick, made with non-dairy milk, no added fat*
56203077	Oatmeal, regular or quick, made with non-dairy milk, fat added*
56203106	Oatmeal, instant, plain, made with non-dairy milk, no added fat*
56205230	Rice dessert bar, frozen, flavors other than chocolate, nondairy, carob covered
56207027	Cream of wheat, regular or quick, made with non-dairy milk, fat added*
56207102	Cream of wheat, instant, made with non-dairy milk, no added fat*
58111200	Puffs, fried, crab meat and cream cheese filled*
58200250	Wrap sandwich, filled with vegetables*
63402970	Fruit salad, excluding citrus fruits, with nondairy whipped topping*
64134025	Fruit smoothie, with whole fruit, non-dairy*
75410550	Stuffed jalapeno pepper*
78101115	Fruit and vegetable smoothie, non-dairy*
78101118	Fruit and vegetable smoothie, non-dairy, added protein*
91306040	Dessert dip*
91501050	Gelatin dessert with cream cheese*
92101903	Coffee, Latte, with non-dairy milk*
92101906	Coffee, Latte, with non-dairy milk, flavored*
92101923	Frozen coffee drink, with non-dairy milk*
92101960	Coffee, Cafe Mocha, with non-dairy milk*
92101975	Coffee, Cafe Mocha, decaffeinated, with non-dairy milk*
92102020	Frozen mocha coffee drink, with non-dairy milk*
92102050	Frozen mocha coffee drink, with non-dairy milk and whipped cream*
92102502	Coffee, Iced Latte, with non-dairy milk*
92102505	Coffee, Iced Latte, with non-dairy milk, flavored*
92102602	Coffee, Iced Cafe Mocha, with non-dairy milk*
92121000	Coffee, instant, pre-lightened and pre-sweetened with sugar, reconstituted*
92121001	Coffee, instant, decaffeinated, pre-lightened and pre-sweetened with sugar, reconsitituted*
92121020	Coffee, mocha, instant, pre-lightened and pre-sweetened with sugar, reconstituted*
92121040	Coffee, instant, pre-lightened and pre-sweetened with low calorie sweetener, reconstituted*
92121041	Coffee, instant, decaffeinated, pre-lightened and pre-sweetened with low calorie sweetener, reconstituted*
92130000	Coffee, pre-lightened and pre-sweetened with sugar*
92130005	Coffee, pre-lightened and pre-sweetened with low calorie sweetener*
92130010	Coffee, pre-lightened*
92130011	Coffee, decaffeinated, pre-lightened*
92161002	Coffee, Cappuccino, with non-dairy milk*
92193000	Coffee, instant, pre-lightened and pre-sweetened with sugar, not reconstituted*

*Only the proportion of the food mixture corresponding to the proposed food uses was included in the analysis.

Medallion Labs: Digestibility Study and PDCAAS Study

Medallion Labs

In-Vitro PDCAAS Analysis

Date: April 20, 2021
Sample Number: 2021-003491-01
Sample Name: 210322

Amino Acid	Amino Acid Conc. Dehydrated (g/100g sample)	Amino Acid Conc. Hydrated (g/100g sample)	Amino Acid Conc. Dehydrated (mg/g protein)	Amino Acid Conc. Hydrated (mg/g protein)	1991 Reference Protein (mg/g protein)	Ratio Dehydrated	Ratio Hydrated
Cystine + Methionine*	0.90	1.04	21.20	24.41	25.00	0.848	0.976
Tryptophan*	0.50	0.55	11.76	12.90	11.00	1.069	1.173
Aspartic acid	3.42	3.95					
Threonine*	1.57	1.85	36.85	43.42	34.00	1.084	1.277
Serine	1.47	1.77					
Glutamic Acid	5.40	6.15					
Proline	1.33	1.58					
Glycine	1.47	1.93					
Alanine	1.92	2.40					
Valine*	2.15	2.54	50.45	59.62	35.00	1.441	1.703
Isoleucine*	1.50	1.74	35.23	40.84	28.00	1.258	1.459
Leucine*	2.36	2.74	55.49	64.33	66.00	0.841	0.975
Tyrosine + Phenylalanine*	2.30	2.57	53.99	60.35	63.00	0.857	0.958
Total Lysine*	2.23	2.54	52.28	59.63	58.00	0.901	1.028
Histidine*	0.83	0.94	19.51	22.07	19.00	1.027	1.162
Arginine	1.93	2.15					

*essential amino acid for nutrition
limiting amino acid for sample

	Dehydrated Amino Acids	Hydrated Amino Acids
Total Moisture (%) =	6.36	6.36
Total Crude Protein (Dumas Combustion, %) =	42.6	42.6
In Vitro Digestibility =	1.00	1.00
First Limiting Amino Acid =	Leucine*	Tyrosine + Phenylalanine*
Amino Acid Score =	0.84	0.96
PDCAAS Value =	0.84	0.96
Total Quality Protein (g/100g) =	35.8	40.8
Serving Size (g) =	NS	NS
Total Quality Protein per Serving (g/serving) =	NS	NS

Note: Concentrations of amino acids in the sample are calculated using both the hydrated and dehydrated molecular weight of each individual amino acid for the Amino Acid Score. The above results are recommended for research and product development use. At this time, it is recommended to use *in vivo* PDCAAS (with rat digestion) for final product labeling unless animal testing is not allowed by the food manufacturer.

Medallion Labs

In-Vitro PDCAAS Analysis

Date: June 2, 2021
Sample Number: 2021-005162-01
Sample Name: 210503

Amino Acid	Amino Acid Conc. Dehydrated (g/100g sample)	Amino Acid Conc. Hydrated (g/100g sample)	Amino Acid Conc. Dehydrated (mg/g protein)	Amino Acid Conc. Hydrated (mg/g protein)	1991 Reference Protein (mg/g protein)	Ratio Dehydrated	Ratio Hydrated
Cystine + Methionine*	0.95	1.10	21.11	24.31	25.00	0.844	0.972
Tryptophan*	0.54	0.59	11.90	13.05	11.00	1.082	1.187
Aspartic acid	3.30	3.82					
Threonine*	1.59	1.87	35.11	41.37	34.00	1.033	1.217
Serine	1.41	1.70					
Glutamic Acid	5.69	6.48					
Proline	1.29	1.53					
Glycine	1.41	1.85					
Alanine	1.84	2.30					
Valine*	1.74	2.05	38.38	45.36	35.00	1.097	1.296
Isoleucine*	1.39	1.61	30.73	35.62	28.00	1.098	1.272
Leucine*	2.25	2.61	49.82	57.75	66.00	0.755	0.875
Tyrosine + Phenylalanine*	2.21	2.47	48.92	54.67	63.00	0.776	0.868
Total Lysine*	2.37	2.70	52.37	59.73	58.00	0.903	1.030
Histidine*	0.82	0.93	18.19	20.58	19.00	0.957	1.083
Arginine	2.08	2.32					

*essential amino acid for nutrition
limiting amino acid for sample

	Dehydrated Amino Acids	Hydrated Amino Acids
Total Moisture (%) =	6.39	6.39
Total Crude Protein (Dumas Combustion, %) =	45.2	45.2
In Vitro Digestibility =	1.00	1.00
First Limiting Amino Acid =	Leucine*	Tyrosine + Phenylalanine*
Amino Acid Score =	0.75	0.87
PDCAAS Value =	0.75	0.87
Total Quality Protein (g/100g) =	34.1	39.2
Serving Size (g) =	NS	NS
Total Quality Protein per Serving (g/serving) =	NS	NS

Note: Concentrations of amino acids in the sample are calculated using both the hydrated and dehydrated molecular weight of each individual amino acid for the Amino Acid Score. The above results are recommended for research and product development use. At this time, it is recommended to use *in vivo* PDCAAS (with rat digestion) for final product labeling unless animal testing is not allowed by the food manufacturer.

Medallion Labs

In-Vitro PDCAAS Analysis

Date: May 23, 2022
Sample Number: 2022-004408-01
Sample Name: 2022040609kLB

Amino Acid	Amino Acid Conc. Dehydrated (g/100g sample)	Amino Acid Conc. Hydrated (g/100g sample)	Amino Acid Conc. Dehydrated (mg/g protein)	Amino Acid Conc. Hydrated (mg/g protein)	1991 Reference Protein (mg/g protein)	Ratio Dehydrated	Ratio Hydrated
Cystine + Methionine*	1.05	1.21	20.79	23.93	25.00	0.832	0.957
Tryptophan*	0.61	0.67	12.10	13.27	11.00	1.100	1.206
Aspartic acid	3.68	4.25					
Threonine*	1.88	2.22	37.31	43.95	34.00	1.097	1.293
Serine	1.69	2.04					
Glutamic Acid	6.28	7.15					
Proline	1.53	1.81					
Glycine	1.67	2.20					
Alanine	2.23	2.80					
Valine*	2.51	2.97	49.76	58.81	35.00	1.422	1.680
Isoleucine*	1.60	1.85	31.60	36.63	28.00	1.129	1.308
Leucine*	2.67	3.09	52.79	61.20	66.00	0.800	0.927
Tyrosine + Phenylalanine*	2.55	2.85	50.50	56.44	63.00	0.802	0.896
Total Lysine*	3.00	3.42	59.39	67.73	58.00	1.024	1.168
Histidine*	0.96	1.09	19.07	21.57	19.00	1.004	1.136
Arginine	2.54	2.83					

*essential amino acid for nutrition
limiting amino acid for sample

	Dehydrated Amino Acids	Hydrated Amino Acids
Total Moisture (%) =	4.02	4.02
Total Crude Protein (Dumas Combustion, %) =	50.5	50.5
In Vitro Digestibility =	0.99	0.99
First Limiting Amino Acid =	Leucine*	Tyrosine + Phenylalanine*
Amino Acid Score =	0.80	0.90
PDCAAS Value =	0.79	0.89
Total Quality Protein (g/100g) =	39.9	44.7
Serving Size (g) =	NS	NS
Total Quality Protein per Serving (g/serving) =	NS	NS

Note: Concentrations of amino acids in the sample are calculated using both the hydrated and dehydrated molecular weight of each individual amino acid for the Amino Acid Score. The above results are recommended for research and product development use. At this time, it is recommended to use *in vivo* PDCAAS (with rat digestion) for final product labeling unless animal testing is not allowed by the food manufacturer. Amino acids provided by the client.

CERTIFICATE OF ANALYSIS

THE BETTER MEAT CO.

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TRADE SECRET / CONFIDENTIAL COMMERCIAL INFORMATION

Contact:
Phone:
Fax:

Sales Order #
Purchase Order # 211007DT01

WO: 2109503 **Samples Received:** 10/11/2021 **Report Date:** 10/22/2021 **Report No:** WAL-169321

Sample ID **Description / Method / Result**

21RE-2109503-29499 Food Product 2021062109KLB Collection Date: 10/8/2021 Analysis Date: 10/11/2021

Vit K	<1	ug/100g	Vit E	<0.5	mg/100g
Vit C	<0.1	mg/100g	Vitamin B6 Pyridoxine Hydrochloride	13.2	mg/100g
Vitamin B12	0.8	ug/100g	Vit A (Total)	<50	I.U./100g
Total Vitamin D (D2 + D3)	<0.7	ug/100g	Thiamin (B1)	<0.1	mg/100g
Riboflavin (Vitamin B2)	0.59	mg/100g	Pantothenic Acid - B5	31.4	mg/100g
Niacin	66.3	mg/100g	Folic Acid	165	ug/100g
Biotin	12	ug/100g			

Test Method: ,Vit K = Vitamin K METHOD,Vit E = Vitamin E METHOD,Vit C = Vitamin C AOAC 984.26 / WRE017,Vitamin B6 Pyridoxine Hydrochloride = Vitamin B6 Pyridoxine Hydrochloride METHOD,Vitamin B12 = Vitamin B12 METHOD,Vit A (Total) = Vitamin A (Total) WRE 054,Total Vitamin D (D2 + D3) = Total Vitamin D (D2 + D3) METHOD,Thiamin (B1) = Thiamin (B1) JAOAC Vol 76, No 5, 1156, 1993,Riboflavin (Vitamin B2) = Riboflavin (Vitamin B2) JAOAC Vol 76, No 5, 1156, 1993,Pantothenic Acid - B5 = Pantothenic Acid - B5 METHOD,Niacin = Niacin (B3) METHOD,Folic Acid = Folic Acid (B9) METHOD,Biotin = Biotin METHOD

Note Sample also tested by IEH Analytical Lab for Vitamin D. Outsourced for Vitamin B3, B6, B9, B12, K1, B5, B7, and E.

Authorized Analyst: Elizabeth Forsyth

Appendix 1

Suitability Data for use of *Neurospora crassa* in Meat and Poultry Products

Table of Contents

Tables

Figures

I. Introduction

We submit this suitability data as an Appendix to our GRAS Notification to FDA for The Better Meat Co.'s (BMC) *Neurospora crassa* food ingredient. BMC is not claiming any information contained in this document as trade secret, confidential, or financial information that is privileged or confidential. Thus, all information and data in this request are not exempt from the Freedom of Information Act (FOIA), 5 U.S.C. Section 552.

The ingredient of interest is the whole biomass of the BMC production strain of *Neurospora crassa* in its dried inactivated or hydrated state, hereafter referred to as Rhiza mycoprotein. One of the intended uses for Rhiza mycoprotein is inclusion as a meat extender in various meat and poultry products. In this application, Rhiza mycoprotein improves the cooking yield, reduces fat and cholesterol content, and increases fiber content as compared to products made solely of meat. Rhiza mycoprotein is intended to be sold as a dry product that customers will hydrate prior to incorporating the ingredient into a formulation.

USDA's FSIS has the authority to regulate certain proposed uses of substances that are otherwise lawfully marketed under applicable laws and regulations enforced by the FDA. FSIS derives such regulatory authority from the Federal Meat Inspection Act (FMIA) and the Poultry Products Inspection Act (PPIA). We understand that FSIS reviews evidence of the suitability of FDA-regulated substances to ensure that their use does not adulterate meat or poultry products, and FSIS works collaboratively with FDA to evaluate the safety of FDA-regulated products for meat and poultry applications, in accordance with its regulations, policies, and a Memorandum of Understanding (MOU) between the two agencies.[1]

No regulations in Title 9 of the Code of Federal Regulations (CFR) currently permit the use of *Neurospora crassa* in its dried or hydrated form for use in meat and poultry applications. Because neither FSIS Directive 7120.1 nor 9 CFR covers the use of Rhiza mycoprotein, we seek FSIS's review and confirmation that the enclosed data support the safe and suitable use of Rhiza mycoprotein in meat and poultry applications as a meat extender. In support of this suitability request, we submit water and oil holding capacity, cooking yield, texture analyses, and comparative nutrition data.

We believe that FSIS will find that the information presented herein fully supports the determination that Rhiza mycoprotein is safe and suitable for use in meat and poultry applications as meat extender, and that the agency will include this product in its next update of FSIS Directive 7120.1 ("Safe and Suitable Ingredients Used in The Production of Meat, Poultry, and Egg Products") to reflect the new permitted uses.

[1] MOU 225-00-2000, Regarding the Listing or Approval of Food Ingredients and Sources of Radiation Used in the Production of Meat and Poultry Products (Jan. 2000), available at https://www.fda.gov/about-fda/domestic-mous/mou-225-00-2000-amendment-1 (last visited Sept. 30, 2022).

II. Meat and Poultry Product Applications

A. Explanation of Meat and Poultry Product Applications

Rhiza mycoprotein is intended to be used as an extender in various meat and poultry products. It is intended to reduce moisture loss in meat and poultry applications, thus extending the cooking yield of these products. Further, Rhiza mycoprotein is intended to reduce fat and cholesterol content and increase fiber content.

B. Intended Use Levels

Rhiza mycoprotein is intended to be added to meat or poultry products at use levels ranging from 10-50% of the total formulation.

C. Data to Demonstrate Suitability of Intended Use

BMC has generated data to demonstrate that the addition of Rhiza mycoprotein at use levels from 10-50% functions as an extender by reducing moisture loss and extending the cooking yield of beef, chicken, and pork products. Across all product categories, Rhiza mycoprotein had no material adverse effects on the texture characteristics of the meat and poultry products tested.

1. Cooking Yield Comparisons for Ground Meat and Rhiza Mycoprotein - Extended Meat Products

In order to evaluate the effectiveness of Rhiza mycoprotein as an extender in meat and poultry products, Rhiza mycoprotein-extended meat patties using ground chicken, pork, and beef were manufactured. The following data quantifies the yield differences between control and Rhiza mycoprotein-extended meat patties.

a) Formulations

For each meat type, a control was prepared along with an "extended" version containing Rhiza mycoprotein. Specific formulations for the control and extended recipes are provided in Table 1. Manufacturing and cooking protocols for each product are described below.

Table 1. Meat Patty Formulations

Ingredient	Control Recipe (%)	Rhiza Mycoprotein - Extended Recipe (%)
Meat (ground chicken, pork, or beef)	100.00	66.67
Dry Rhiza mycoprotein	0.00	11.11[2]
Water	0.00	22.22
TOTAL	100.00	100.00

[2] 11.11% dry Rhiza equates to approximately 33% hydrated Rhiza. This is the expected typical rate.

b) Methodology

Rhiza mycoprotein was hydrated at a ratio of 1:2, dry mycoprotein to water by weight. Once hydrated, ground meat was added. The formula consisted of 66.67% ground meat, 11.11% dry Rhiza mycoprotein, and 22.22% water. Once coarsely combined, the meat and hydrated Rhiza mycoprotein were thoroughly integrated using an 8 mm grinder plate. The material was measured into 50-gram patties, and oven-baked at 350 °F. Six chicken patties, both extended meat and solely meat, were cooked to 165 °F internal temperature. Six pork and six beef patties, extended and solely meat, were cooked to 155 °F internal temperature. Calculations of cook yield were a measurement of the post-cook weight divided by the original weight, 50 grams, and multiplied by 100 to produce the percentage of retained yield.

Figure 1. Photographic Comparison of Raw Control and Extended Beef Patty Recipes

Figure 2. Photographic Comparison of Cooked Control and Extended Beef Patty Recipes

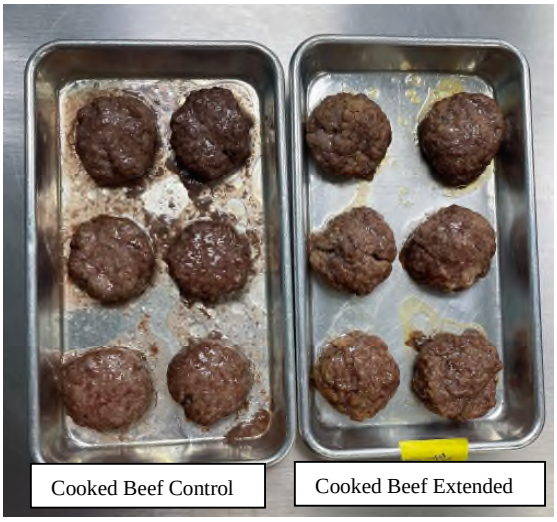


Figure 3. Photographic Comparison of Raw Control and Extended Chicken Patty Recipes

Figure 4. Photographic Comparison of Cooked Control and Extended Chicken Patty Recipes

Figure 5. Photographic Comparison of Raw Control and Extended Pork Patty Recipes

Figure 6. Photographic Comparison of Cooked Control and Extended Pork Patty Recipes

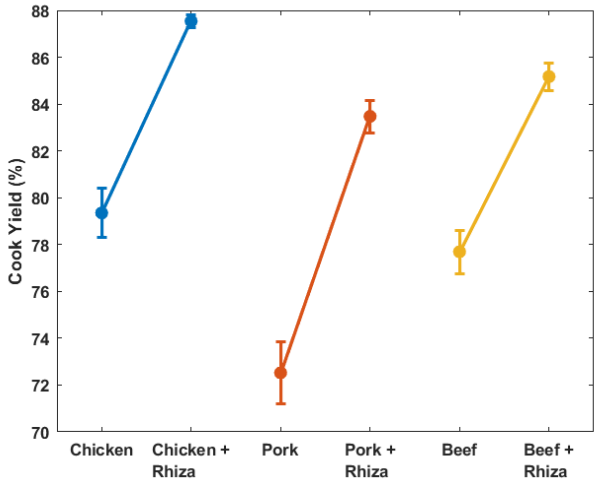
c) Yield Analysis

All Rhiza mycoprotein-extended products out-performed their solely-meat counterparts in cook yield. Less cookout was observed for chicken, pork, and beef products with incorporated Rhiza mycoprotein. Table 2 indicates that Rhiza mycoprotein -extended products have a higher cook yield than control products containing only meat.

Table 2. Meat Patty Average Cook Yields

Product	Control % Yield	Extended % Yield
Beef Patty (6)	77.69	85.17
Chicken Patty (6)	79.35	87.54
Pork Patty (6)	72.52	83.47

Figure 7. Meat Patty Average Cook Yields[3]



2. Texture Profile Analysis of Ground Meat and Rhiza Mycoprotein - Extended Meat Products

Texture Profile Analysis (TPA) was conducted to assess the impact of Rhiza mycoprotein on the texture of meat and poultry products.[4] The following data quantifies the texture differences between control and Rhiza mycoprotein-extended ground chicken, pork, and beef patties. Texture profiles explored include hardness, resilience, cohesiveness, springiness, and chewiness.[5]

a) Methodology

TPA was performed on a Stable Micro Systems TA.XTplusC texture analyzer equipped with a 20 mm x 38 mm diameter acrylic cylinder probe (Texture Technologies, cat. #TA-4). Ground meat and ground meat extended with Rhiza mycoprotein were formed to a consistent size using a 30 mm height x 30 mm diameter cylindrical metal cutter. Measurements were acquired at a constant rate of 1 mm/second with a trigger force of 4 g to a strain of 50%, with 5

[3] Error bars represent the standard deviation.

[4] Texture Profile Analysis (Aug. 2001), available at https://doi.org/10.1002/0471142913.fah0203s00 (last visited Sept. 30, 2022).

[5] Texture Technologies, Chapter IV: What does TPA Measure?, available at https://texturetechnologies.com/resources/texture-profile-analysis#tpa-measurements (last visited Sept. 30, 2022).

seconds between compressions. After raw measurements were acquired, all control and extended meat samples were cooked to an internal temperature of 165 °F. Hardness values were normalized to heights for each sample to account for the differences in height observed after cooking and the correlation between height and hardness, which subsequently impacts chewiness. Figures 8, 10, and 10 were constructed in MATLAB.[6]

Figure 8. Control and Extended Beef Patty TPA Analyses

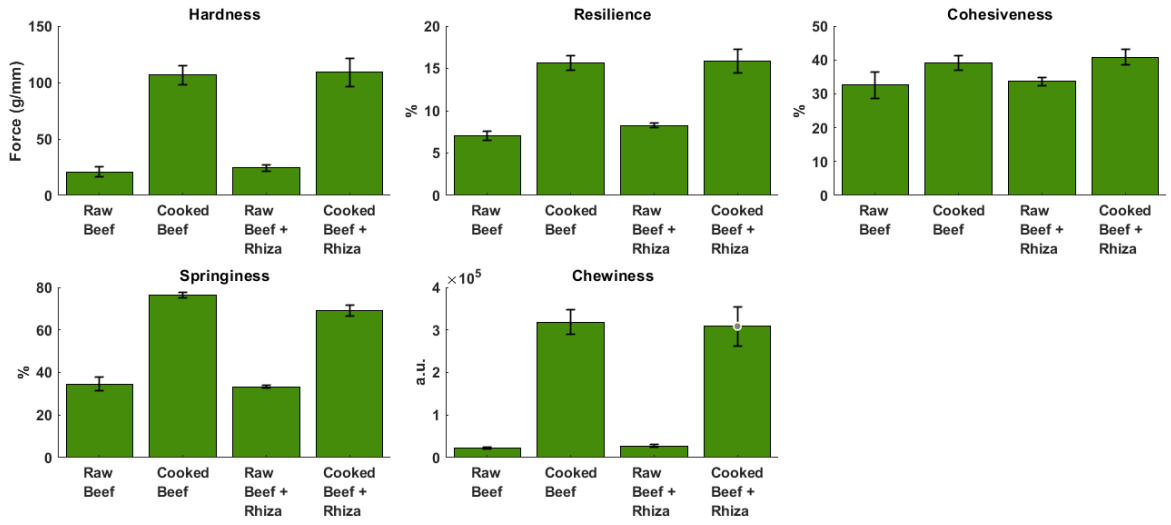
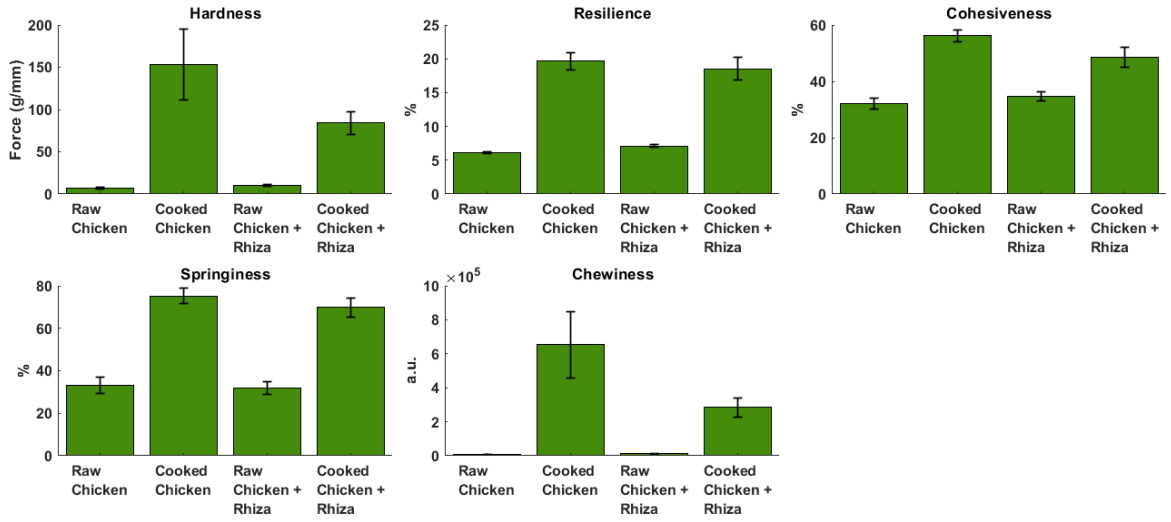
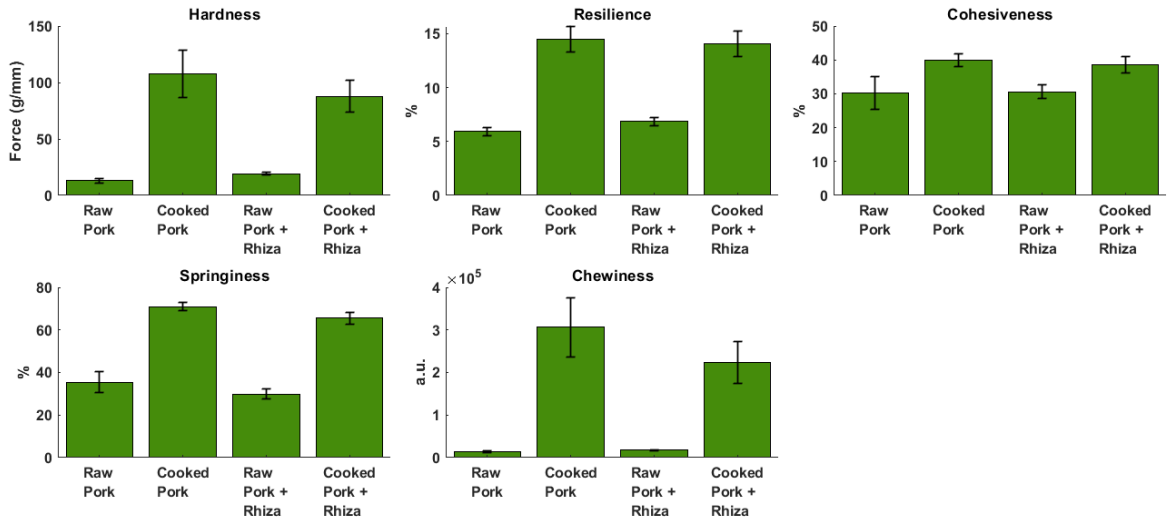


Figure 9. Control and Extended Chicken Patty TPA Analyses



6 Error bars represent the standard deviation.

Figure 10. Control and Extended Pork Patty TPA Analyses



b) TPA Analysis

The addition of Rhiza mycoprotein to beef, chicken, and pork products did not have any meaningful effect on the textual properties of raw samples. In comparison to control samples, Rhiza mycoprotein-extended beef, chicken, and pork samples did not exhibit changes in resilience, cohesiveness, or springiness. Hardness and chewiness were not impacted in cooked beef samples. In comparison to control samples, Rhiza mycoprotein-extended pork products were roughly 18% softer and 27% chewier after cooking, and Rhiza mycoprotein-extended chicken products were 45% softer and 56% chewier.

3. Nutritional Comparison

Table 3 provides nutritional comparisons between control and Rhiza mycoprotein-extended ground chicken, beef, and poultry samples based on a 110g raw meat serving size. Rhiza mycoprotein-extended samples consisted of 66.67% raw ground meat, 11.11% dry Rhiza mycoprotein, and 22.22% water. Nutritional values calculated include calories, total fat, saturated fat, trans fat, cholesterol, sodium, total carbohydrates, fiber, protein, and iron.

Table 3. Nutritional Comparison for Ground Meat and Rhiza Mycoprotein - Extended Meat Products

Product	Calories	Total Fat (g)	Sat. Fat (g)	Trans Fat (g)	Cholesterol (mg)	Sodium (mg)	Total Carbs (g)	Fiber (g)	Protein (g)	Iron (mg)
Chicken, ground, raw	157	8.9	2.5	0.1	94.6	66.0	0.0	0	19.2	0.90
Rhiza mycoprotein-	155	6.9	1.7	0	63.1	50.8	4.0	2.5	18.9	1.80

extended Chicken										
Pork, ground, raw, 72% lean	345	30.8	10.4	1.9	83.6	75.9	0.7	0	16.4	0.99
Rhiza mycoprotein-extended Pork	280	21.5	6.9	1.2	55.7	57.4	4.5	2.5	17.0	1.86
Beef, ground, raw 80% lean	279	22.0	8.3	1.3	78.1	72.6	0.0	0	18.9	2.13
Rhiza mycoprotein-extended Beef	236	15.7	5.6	0.9	52.1	55.2	4.0	2.5	18.7	2.62

a) Methodology

Nutritional values of the Rhiza mycoprotein-extended ground chicken, beef, and poultry samples were calculated on a weight basis from formulation components using the methods provided in Table 4. Nutritional values for control ground meat patties came from USDA's FoodData Central database.[7]

Table 4. Nutrition Information Methodologies

Category	**Method**
Calories	Internal Calculation
Total Fat	Gas Chromatography, AOAC 996.06
Saturated Fat	Gas Chromatography, AOAC 996.06
Trans Fat	Gas Chromatography, AOAC 996.06
Cholesterol	AOAC: 976.26
Sodium	AOAC 2011.14
Total Carbohydrates	Internal Calculation
Total Dietary Fiber	AOAC 991.43
Protein	AACC 46-30. AOAC 992.15
Iron	AOAC 2011.14

[7] U.S. Department of Agriculture, FoodData Central Database, available at https://fdc.nal.usda.gov/ (last visited Sept. 20, 2022).

4. Water and Oil Holding Capacity

Rhiza mycoprotein can be sold as a dry product which the customer will hydrate before incorporating into a formulation. We expect that the typical Rhiza mycoprotein customer will be a food product manufacturer. BMC conducted an analysis of Rhiza mycoprotein water and oil holding capacity to determine the ratio of the maximum amount of water added to Rhiza mycoprotein, or the maximum amount of oil added to Rhiza mycoprotein.

a) Methodology

First, the dry Rhiza mycoprotein sample is confirmed to be within the specifications for moisture content at <11%. 1.5 grams of Rhiza mycoprotein were weighed out and placed into a 50 mL tube. 20 mL of water was added to the tube and left to hydrate for 1 hour. Subsequently, the hydrated Rhiza mycoprotein was drained using a vacuum filter for 1 minute. The filtered product was placed on a paper towel for 5 minutes to absorb any free water. Subsequently, a final weight was measured. The water holding capacity (WHC) was calculated using the following formula:

$$WHC = \frac{Weight_{Final} - Weight_{Initial}}{Weight_{Initial}}$$

This process was repeated 5 times, after which the average was calculated.

Oil holding capacity (OHC) was calculated using the same method, but with 20 mL of sunflower oil and using the following formula:

$$OHC = \frac{Weight_{Final} - Weight_{Initial}}{Weight_{Initial}}$$

b) Water and Oil Holding Results

Dry Rhiza mycoprotein Lot 2022052409KL was assayed for moisture content at 5.63% and was confirmed to be within the product specification of <11%. The water holding capacity of lot 2022052409KL of Rhiza mycoprotein averaged 5.17 grams, on a weight-to-weight basis. The oil holding capacity averaged 5.86 grams. Notably, while a 5.17 ratio for water-holding capacity and 5.86 ratio for oil was obtained, the typical use ratio is between 2-3. This range is typical because it reduces cooking loss and creates a more meat-like texture, thus allowing Rhiza to absorb cooking juices and maintain a higher yield.

D. Safety of FSIS Inspectors

The requested revision to Directive 7120.1 to include Rhiza mycoprotein as a permissible extender is not expected to affect or jeopardize the safety of FSIS inspection personnel. This conclusion is supported by the fact that this ingredient is GRAS when used in accordance with GMPs. The use of Rhiza mycoprotein will not generate any new or unique hazards. Thus, all safety measures currently in place to protect facility workers and FSIS inspection staff should be

sufficient. When Rhiza mycoprotein is stored, handled, and used in accordance with the recommendations listed on the material safety data sheet (MSDS), it will not present any additional hazards to the safety of FSIS inspectors.

E. Impact on Labeling and Inspection Procedures

We expect that the ingredient would be declared by its common or usual name, "*Neurospora crassa*" or (as appropriate) "Rhiza mycoprotein" in the ingredient declaration of the meat/poultry product.

Additionally, no impact is anticipated for FSIS inspection procedures.

III. Conclusion

The data provided herewith demonstrate that Rhiza mycoprotein produces positive effects on cooking yield when added to meat and poultry products. Further, it produces no material adverse effects on the texture properties of the meat and poultry products to which it is added. We trust that FSIS will find the information in this submission sufficient to support a finding that Rhiza mycoprotein is suitable for use as an extender in meat and poultry products.