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To:
Office of Food Additive Safety (FHS-200)
Center for Food Safety and Applied Nutrition
Food and Drug Administration
5100 Campus Drive
College Park, MD 20740

**Subject: GRAS Notice for High-Purity Rebaudioside M**

Dear:

In accordance with 21 CFR §170 Subpart E consisting of §170.203 through 170.285, Manus Bio Inc. hereby informs the United States Food and Drug Administration of the conclusion that High-Purity Rebaudioside M, manufactured by Manus Bio Inc., as defined in the enclosed documents, is GRAS under the specified conditions of use as a food ingredient on the basis of scientific procedures, and therefore, is not subject to the premarket approval requirements of the Federal Food, Drug, and Cosmetic Act.
Information supporting the GRAS status of the High-Purity Rebaudioside M, which includes detailed information on the notified substance and a summary of the basis of the safety of High-Purity Rebaudioside M, under the intended conditions of use, also are enclosed for review by the Agency.

I hereby certify that the enclosed electronic files were scanned for viruses prior to submission and are thus certified as being virus-{(ee using Symantec Endpoint Protection.

Should you have any questions or concerns regarding this GRAS Notice, please do not hesitate to contact me at any point during the review process so that we may provide a response in a timely manner.

Sincerely,

**Christine Santos, PhD**
Chief Technology Officer
Manus Bio Inc.
csantos@manusbio.com

External use permitted

# GRAS Notification for high-purity Rebaudioside M produced by enzymatic conversion of stevia leaf extract

**Prepared for:**
Office of Food Additive Safety (HFS-200)
Center for Food Safety and Applied Nutrition
Food and Drug Administration
5001 Campus Drive
College Park, MD
20740 USA

**Date:**

November 25, 2020

# GRAS Notification for High-Purity Rebaudioside M Produced by Bioconversion of Stevia Leaf Extract

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# GRAS Notification for High-Purity Rebaudioside M Produced by Enzymatic Conversion of Stevia Leaf Extract

## Part 1.1 §170.225 Signed Statements and Certification

In accordance with 21 CFR §170 Subpart E consisting of §170.203 through 170.285, Manus Bio Inc. hereby informs the United States (U.S.) Food and Drug Administration (FDA) that the high-purity rebaudioside M (≥95% rebaudioside M), manufactured by Manus Bio Inc., and identified as NutraSweet M™is not subject to the premarket approval requirements of the Federal Food, Drug, and Cosmetic Act based on Manus Bio's view that the notified substance is Generally Recognized as Safe (GRAS) under the conditions of its intended use described in Section 1.3 below. In addition, as a responsible official of Manus Bio, the undersigned hereby certifies that all data and information presented in this notice represents a complete, representative, and balanced submission, and considered all unfavorable as well as favorable information known to Manus Bio. Included is all pertinent information to the evaluation of the safety and GRAS status of high purity rebaudioside M (≥95% rebaudioside M) as a general-purpose sweetener, as described herein.

Signed,

November 25, 2020

Christine Santos PhD.
Manus Bio Inc.
1030 Massachusetts Ave
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Cambridge, MA 02138
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## 1.2 Common Name of Notified Substance

Stevia Extract, Stevia Leaf Extract, Stevia Sweetener, Stevia Leaf Sweetener, Steviol glycosides, Rebaudioside M, Reb M, NutraSweet M

## 1.3 Conditions of Use

Manus Bio intends to market high-purity rebaudioside M produced via enzymatic conversion, as a steviol glycoside preparation comprised of ≥95% rebaudioside M, for use as a general purpose sweetener in foods within the U.S.A., in accordance with current Good Manufacturing Practice (cGMP), excluding infant formulas, meat, and poultry products. The U.S. FDA has raised no questions on the use of other high purity rebaudioside M products, including other steviol glycoside preparations, as general-purpose sweetening agents. These have no restrictions on their specific food uses and use-levels. In addition, the use-levels of high-intensity sweeteners are restricted based on the technological properties of the sweetening agent (*i.e.,* sweetness potency). As a result, because the sweetness profile of high-purity rebaudioside M (≥95% rebaudioside M) is comparable to the sweetness profiles of other steviol glycoside preparations, the food uses and use-levels of high-purity rebaudioside M (≥95% rebaudioside M) are likely to reflect those currently permitted in the U.S.

## 1.4 Basis for GRAS

The U.S. FDA has reviewed the safety of over 50 different steviol glycoside preparations and have consistently raised no objections regarding the GRAS status of steviol glycosides for use as general-purpose sweeteners in food and beverage products. Of note, the U.S. FDA did not raise any objections regarding GRN 667 and GRN 745, in relation to the GRAS status of rebaudioside M produced by enzymatic conversion for use as a general-purpose sweetener in foods (U.S. FDA, 2017, 2018). The rebaudioside M described in GRN 667 and 745 is similar to Manus Bio's high purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides. In the Manus Bio process the food ingredient is produced by conversion of stevia leaf extract using UDP-glucosyltransferase enzymes produced by *E. coli* K-12 similar to GRN 745.

Pursuant to Title 21, Section 170.30 of the Code of Federal Regulations (CFR), high-purity rebaudioside M (≥95% rebaudioside M) produced via enzymatic conversion has been determined to be GRAS by Manus Bio for use as a general-purpose sweetener in foods, on the basis of scientific procedures. This GRAS determination is based on information generally available in the public domain pertaining to the safety of steviol glycosides and the production process, as discussed herein. It is also based on consensus among a panel of experts (the GRAS Panel) who are qualified by scientific training and experience to evaluate the safety of high purity rebaudioside M (≥95% rebaudioside M) as a general-purpose sweetener. [**See Appendix A. titled** "**GRAS Panel Report Concerning the Generally Recognized as Safe (GRAS) Status of high-purity Rebaudioside M (≥95% Rebaudioside M) produced by enzymatic conversion of stevia leaf extract."**

### 1.5 Availability of Information

The data and information that serve as the basis for this GRAS Notification will be made available to the U.S. FDA for review and copying upon request during business hours at the offices of:

Manus Bio Inc.
1762 Lovers Lane
Augusta, GA. 30901

In addition, Manus Bio will supply additional data and information to the FDA as may be requested to address any questions regarding this notification during or after the Agency's review of the notice.

### 1.6 Freedom of Information Act, 5 U.S.C. 552

It is Manus Bio's view that all data and information presented in Parts 2 through 7 of this notice do not contain any trade secret, commercial, or financial information that is privileged or confidential, and therefore all data and information presented herein are not exempt from the Freedom of Information Act, 5 U.S.C. 552.

# Part 2. §170.230 Identity, Method of Manufacture, Specifications, and Physical or Technical Effect

## 2.1 Identity

#### 2.1.1 Common or Usual Name

Stevia Extract, Stevia Leaf Extract, Stevia Sweetener, Stevia Leaf Sweetener, Steviol glycosides, Rebaudioside M, Reb M, NutraSweet M

#### 2.1.2 Chemical and Physical Characteristics

Manus Bio's high-purity rebaudioside M (≥95% rebaudioside M; Reb M) is produced by enzymatic conversion of steviol glycosides extracted from the leaves of *Stevia rebaudiana* Bertoni using genetically modified *Escherichia coli* strains derived from *E. coli* K-12. The high purity rebaudioside M (≥95% rebaudioside M) material is a white-to-off-white powder that has a clean taste with no abnormal or off odor and is freely soluble in water. High purity rebaudioside M (≥95% rebaudioside M) is approximately 250 times sweeter than sucrose, which is consistent with the sweetness profile of steviol glycosides (FAO, 2016).

All steviol glycosides share a common steviol backbone and differ only with respect to the type and number of glycoside units they contain (*i.e.,* glucose, xylose, rhamnose, fructose, deoxyglucose, galactose, and/or arabinose) conjugated at positions $R_1$ and $R_2$. Due to the common steviol backbone, all steviol glycosides share a similar metabolic fate. The general structure for steviol glycosides is shown in Figure 2.1.2-1.

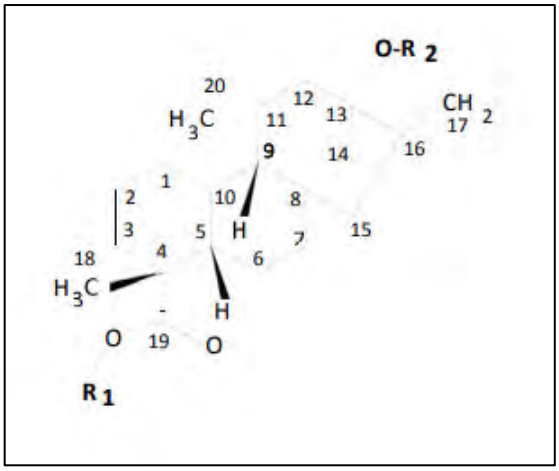



**Figure 2.1.2-1 Chemical Structure of Steviol Glycosides**

$R_1$ and $R_2$ may be a single or multiple glycoside unit, including glucose, xylose, rhamnose, fructose, deoxyglucose, galactose, and/or arabinose.

Rebaudioside M contains 3 glucose units each at $R_1$ and $R_2$ (Figure 2.1.2-2). It should be noted that Manus Bio's high-purity rebaudioside M (≥95% rebaudioside M) is a highly purified product that contains ≥95% Reb M, which is consistent with the purity criteria for steviol glycosides as established by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) (JECFA, 2017a).

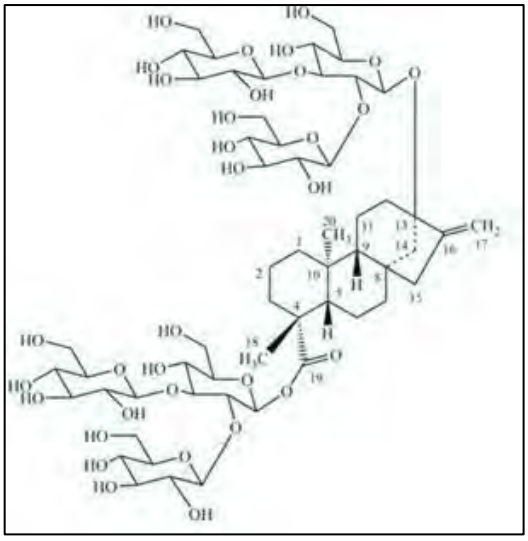


**Figure 2.1.2-2 Chemical Structure for Rebaudioside M**

## 2.2 Method of Manufacturing

### 2.2.1 Raw Materials and Processing Aids

All raw materials, processing aids (Table 2.2.1-1), and purification equipment used to manufacture Manus Bio's rebaudioside M through enzymatic conversion of steviol glycosides are food-grade ingredients, permitted by U.S. regulation, have GRAS status, or have been self-affirmed as safe for use in food for their respective uses. The food-grade ingredients are compliant with the specifications set forth in the Food Chemicals Codex or equivalent international food or pharmacopeia standard (e.g., JECFA, CODEX, United States Pharmacopeia, and European Pharmacopoeia).

The starting material for fermentation is a water/ethanol extract of S. rebaudiana sold as a food ingredient by a third-party supplier. This extract is produced in a facility with SQF, GMP, ISO9001, ISO 14001, HACCP, HALAL and Kosher certifications. The manufacturing process for this starting material is described in detail in GRAS Notice (GRN) 275 (U.S. FDA, 2008). In brief, steviol glycosides are extracted from the stevia leaf by a series of crushing, dissolution, solvent extraction, and precipitation steps that are consistent with the methodology outlined in the CTA for steviol glycosides (FAO, 2016). Since the product is specified to contain ≥ 90% total steviol glycosides, it does not meet the purity requirements specified by JECFA (Joint European Committee on Food Additives, 2016; Joint FAO/WHO Expert Committee on Food Additives, 2016); however, following enzymatic conversion and the subsequent purification steps the final product generated is a highly purified steviol glycosides (≥ 95%) preparation which is recognized under numerous GRAS notifications (GRNs 252, 253, 275, 278, 282, 287, 303, 304, 318, 323, 329, 337, 348, 349, 354, 365, 367, 369, 375, 380, 388, 389, 393, 395, 418, 448, 452, 456, 461, 467, 473, 493, 512, 516, 536, 548, 555, 607, 619, 626, 632, 638, 656, 662, 667, 702, 715, 733, 744, 745, 759, 780, 799, 812, 846, 867, 878, 882, 911) These purified glycosides of ≥ 95% purity meet the joint FAO/WHO requirements[1].)

[1] Compliant with the specifications set forth in the Food Chemicals Codex or equivalent international food or pharmacopeia standard (*e.g.,* JECFA, CODEX, United States Pharmacopeia, and European Pharmacopoeia).

**Table 2.2.1-1 Materials used in production process**

| Material | | Use | 21CFR (U.S.FDA 2018) | Approved use |
|---|---|---|---|---|
| Glucose Monohyrdate | C6H14O7 | medium nutrient | GRAS | GRAS when used in accordance with cGMP |
| Ammonium sulfate | (NH4)2SO4 | medium nutrient | 582.1143/184.1443 | GRAS when used in accordance with cGMP |
| Potassium phosphate monobasic | KH2PO4 | medium nutrient | 160.110 | GRAS when used in accordance with cGMP |
| Potassium phosphate dibase, | K2HPO4 | medium nutrient | 160.110 | GRAS when used in accordance with cGMP |
| Citric Acid | C6H8O7 | medium nutrient | 184.1033 | pH control agent & processing aid with no limitation other than cGMP |
| Yeast Extract | | medium nutrient | 184.1983 | GRAS when used in accordance with cGMP |
| Antifoam | | media | 173.340 | processing when used in accordance with cGMP. Secondary direct food additive, defoaming agent. |
| Manganese(II) chloride tetrahydrate | MnCl2.4H2O | medium nutrient | 582.5446/184.1446 | GRAS when used in accordance with cGMP |
| Zinc sulfate monohydrate | ZnSO4.H2O | medium nutrient | 582.5997/182.8997 | GRAS when used in accordance with cGMP |
| Copper(II) chloride pentahydrate | Cl2CuH10O5 | medium nutrient | 184.1261 | GRAS when used in accordance with cGMP |
| Calcium chloride dihydrate | CaCl2.2H2O | medium nutrient | 582.1193/582.6193/184.1193 | GRAS when used in accordance with cGMP |
| Peptone | | medium nutrient | 21CFR 184.1553 | GRAS when used in accordance with cGMP |
| Sodium molybdate dihydrate | Na2MoO4.2H2O | medium nutrient | 40CFR 180.920 | GRAS when used in accordance with cGMP |
| Iron(II) sulfate heptahydrate | FeSO4.7H2O | medium nutrient | 184.1315 | GRAS when used in accordance with cGMP |
| Magnesium sulfate Heptahydrate | H14MgO11S | medium nutrient | 582.5443/184.1443 | GRAS when used in accordance with cGMP |
| Thiamine Hydrochloride | C12H18Cl2N4OS | medium nutrient | 582.5875/184.1875 | Nutrient suppliment with no limitation when used in accordance with cGMP |
| Stevia Extract | | media | 170.30 | GRAS when used in accordance with cGMP |
| 190 Proof Ethanol | CH3CH2OH | Elution Slovent Crystalization | 184.1293 | GRAS when used in accordance with cGMP |
| Sucrose | C12H22O11 | medium nutrient | GRAS | GRAS when used in accordance with cGMP |
| Sodium Hydroxide | NaOH | medium nutrient | 184.1205 | GRAS when used in accordance with cGMP |
| Sulfuric Acid | H2SO4 | medium nutrient | 184.1293 | GRAS when used in accordance with cGMP |
| Sodium Benzoate | C7H5NaO2 | Preservative | 184.1733 | Used as an antimicrobial agent at levels not to exceed GMP (typically 0.1% in food) |
| Potassium Sorbate | C6H7KO2 | Preservative | 182.364 | GRAS when used in accordance with cGMP |
| Sodium Carbonate Monohydrate | CH2Na2O4 | medium nutrient | 184.1742 | GRAS when used in accordance with cGMP |
| Glycerin | C3H8O3 | medium nutrient | 182.132 | GRAS when used in accordance with cGMP |
| Potassium Chloride | KCl | medium nutrient | 184.1622 | GRAS when used in accordance with cGMP |
| Adsorption resin | | Purification | 173.65 | GRAS when used in accordance with cGMP |
| Ion-exchange resin | | Purification | 173.25 | GRAS when used in accordance with cGMP |
| Activated carbon | | Decolorizing agent | GRAS | used in accordance with cGMP |
| Microfiltration/ Purification | | Ultrafiltration | 177.291 | used in accordance with cGMP |
| Boiler chemicals | | anticorrosion | 173.31 | used in accordance with cGMP (non contact) |

### 2.2.2 Production organism

**Parental Strain**

The parental strain *E. coli* K-12 sub-strain MG1655 Fnr- was obtained from the *E. coli* Genetic Stock Center (CGSC) and is currently listed under the designation CGSC 6300.

**Production Strain**

The parental strain *E. coli* K-12 was engineered to express enzymes (UDP-glucosyl transferases) for the glycosylation of steviol glycosides and to improve the overall production efficiency of rebaudioside M. In addition, the strain was engineered to increase the supply of uridine diphosphate glucose (UDP-Glu), a precursor required for glycosylation of steviol glycosides through a series of gene deletions and overexpressions. All heterologously overexpressed genes originated from biosafety level 1 organisms that are not associated with any known allergens or toxins, including *Stevia rebaudiana, Oryza sativa, Glycine max*, and *Bifidobacterium bifidum.*

**Engineering Methods**

Overexpressed genes were synthesized, codon-optimized for *E. coli,* and introduced into stable, non-essential regions of the genome via standard techniques utilizing homologous recombination with positive selection and counter selectable markers (Datsenko and Wanner, 2000). These regions include but are not limited to *endA*, *recA*, and *araA*. All selection markers used during the engineering process were removed, and no antibiotic resistance markers are present in the final production strain.

Gene deletions were generated using standard techniques utilizing homologous recombination with positive selection and counter selectable markers (Datsenko and Wanner, 2000). All selection markers used during the engineering process were removed, and no antibiotic resistance markers are present in the final production strain. The identity of the final production strain was confirmed by Sanger sequencing of modified regions and by whole genome sequencing.

***History of safe use of E. coli K-12***

*E. coli* K-12 is a non-pathogenic and non-toxigenic organism belonging to Biosafety Level 1 according to the National Institutes of Health (NIH, 2016). Additional supporting evidence for the safety of *E. coli* K-12 is cited in other GRAS notices. (Table 2.2.2-1). *E. coli* K-12 has a long history of safe use in the industrial production of specialty chemicals and human drugs (U.S. EPA, 1997). For example, a food enzyme preparation (chymosin) obtained from a genetically modified *E. coli* K-12 strain was affirmed as GRAS by the FDA in 1990 (Flamm, 1991; Olempska-Beer *et al.*, 2006) and has been used safely for cheese production worldwide. *E. coli* also serves as a host for the production of enzymes currently used in a GRAS-approved process for the enzymatic conversion of steviol glycosides (GRN745, 2018).

## Table 2.2.2-1 GRAS Notices Using *E. coli* K-12

Various substrains and modified versions of E. coli K-12 have been used to produce products deemed Generally Recognized As Safe (GRAS) for food or animal use, including two RebM products (GRAS Notices [GRNs] 745 and 780). These GRNs are described in Table 2.2.2-1. Notably, in the response letter to GRN 659, FDA opined, "We extensively reviewed and determined that E. coli K-12 is a non-pathogenic, non-toxigenic, and safe production strain when used in accordance with good manufacturing practices" (55 FR 10932 at 10934; March 23, 1990). In response to GRN 745 the FDA stated "Based on the information that the petitioner provided, as well as other information available to FDA, we have no questions at this time regarding the petitioner's conclusion that EMSG is GRAS under its intended conditions of use under 21 CFR 170.35. Additionally, E. coli K-12 is in the GRAS production of chymosin, which is used to coagulate milk in cheeses and other dairy products (21 CFR §184.1685)

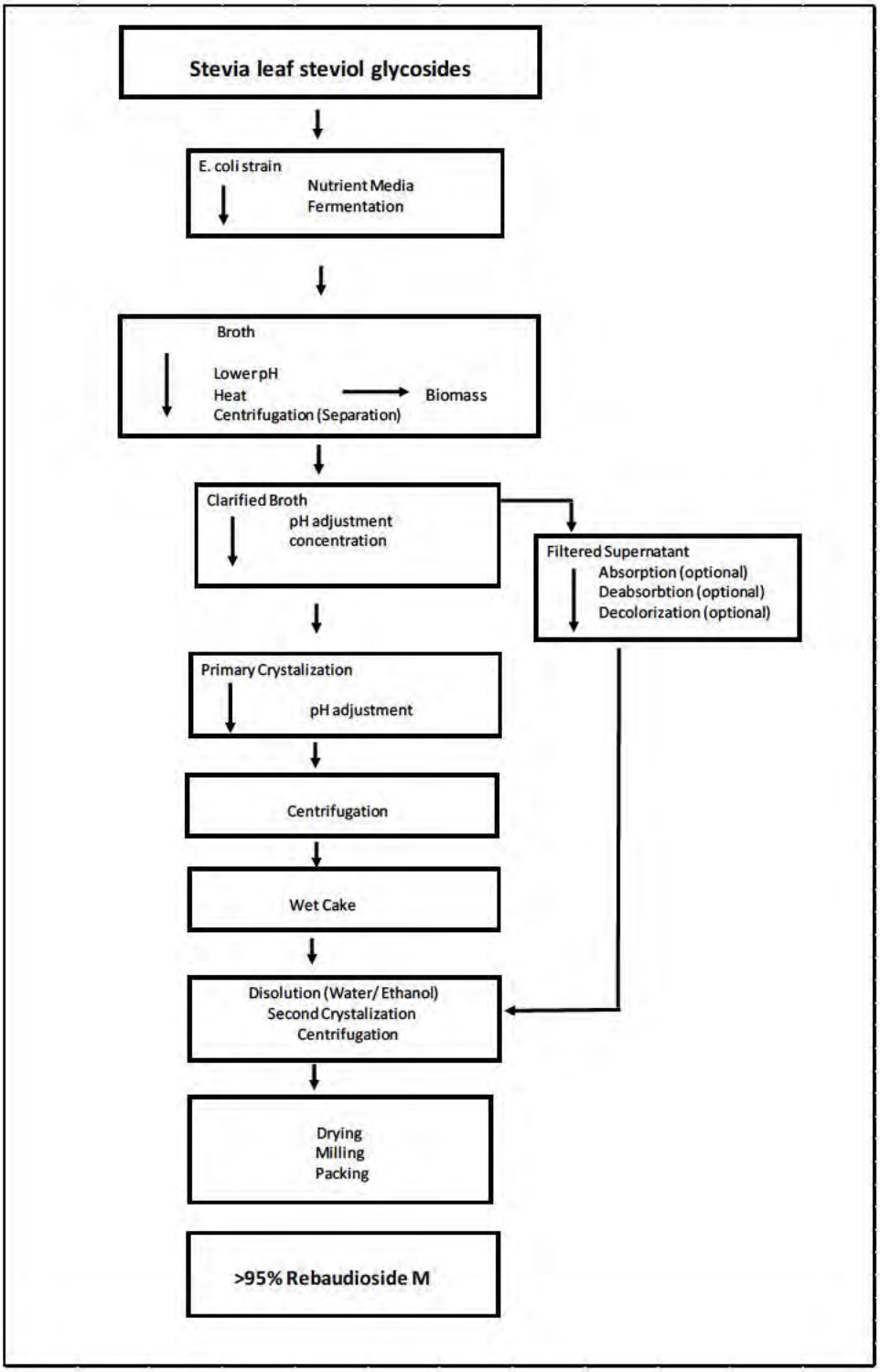
| GRN | FDA Response | Product | Methods | GRN | FDA Response | Product | Methods |
|---|---|---|---|---|---|---|---|
| **GRN 624** | No questions | D-allulose 3-epimerase enzyme preparation | Substrain W3110 engineered to express D-allulose 3-epimerase from Arthrobacter globiformis M30 | **GRN 780** | No questions | Rebaudioside M | Engineered to express 2 glycosyltransferases and sucrose synthase; isolated enzymes utilized to produce RebM |
| **GRN 659** | No questions | Lacto-N-neotetraose | Substrain DH1 underwent 7 modifications to optimize oligosaccharide production | **AGRN 16** | No questions | L-methionine | Modified (not described) |
| **GRN 735** | No questions | 2'-fucosyllactose | Substrain W3110 derivative GI724 modified to enhance production of fucosylated oligosaccarides | **AGRN 24** | No questions | L-methionine | Modified (not described) |
| **GRN 745** | No questions | Steviol glycosides consisting of primarily rebaudioside M | Substrain W3110 derivative LE1B109 engineered to express enzymes for stevioside transformations; enzymes isolated to produce RebM | **CFR 184.1685** | Affirmed as GRAS | Chymosin | nonpathogenic and nontoxigenic strain of *Escherichia coli* K-12 |

GRAS = Generally Recognized As Safe; GRN = GRAS Notice; AGRN = Animal Food GRAS Notice

### 2.2.3 Manufacturing Process

Manus Bio's high-purity rebaudioside M (≥95% rebaudioside M) is produced by enzymatic conversion of steviol glycosides using an *E. coli* strain derived from *E. coli* K-12. (see Appendix B) The production strains are grown in media containing steviol glycoside extracts prepared from the leaves of *S. rebaudiana* Bertoni in accordance with the methodology outlined in the Chemical and Technical Assessment (CTA) for steviol glycosides (FAO, 2016). *E. coli* K-12 cells mediate the glycosylation of steviol glycosides in the leaf extract to rebaudioside M. The broth is then inactivated and centrifuged to separate the *E. coli* K-12 biomass from the aqueous phase. Rebaudioside M is extracted from the aqueous phase and purified through crystallization and washes. Rebaudioside M crystals are then dried and milled to a final product containing ≥95% Rebaudioside M. The purification processes described are consistent with the methodologies for the manufacture of steviol glycosides as described in the CTA published by FAO/JECFA (FAO, 2016). Manus Bio's ≥95% Rebaudioside M, produced by enzymatic conversion of steviol glycosides, is manufactured in a facility registered as a FDA Food Facility. The plant operates under cGMPs (Good Manufacturing Practices) outlined in the Food Safety Modernization Act 21 CFR 117, including required HACCP and Food Defense Plans, and is subject to audit from regulatory authorities including the US FDA and The State of Georgia Department of Agriculture. Manufacturing shall be certified to a GFSI (Global Food Safety Initiative) compliant audit scheme. An overview of the manufacturing process flow is provided in Figure 2.2.3.1 below.

**Figure 2.2.3.1 Manufacturing process of Manus Bio's rebaudioside M produced by enzymatic conversion.**



## 2.3 Product Specifications and Batch Analyses

### 2.3.1 Product Specifications

Appropriate food-grade specifications have been established for high-purity rebaudioside M (≥95% rebaudioside M) produced via enzymatic conversion based on the specifications for steviol glycosides established by JECFA (2017a) (Table 2.3.1-1). All analytical methods used to measure each specification parameter are internationally- recognized methods (*e.g.,* United States Pharmacopeia [USP], Association of Official Analytical Chemists [AOAC], or JECFA). Total steviol glycoside content is measured using the high-performance liquid chromatography (HPLC) method described in the JECFA specification monograph for steviol glycosides from *S. rebaudiana* Bertoni (JECFA, 2017a,b).

**Table 2.3.1-1 Product Specifications for High-Purity Rebaudioside M (≥95% Rebaudioside M) produced via Enzymatic Conversion of Stevia Leaf Extract**

| Specification Parameter | High-Purity Rebaudioside M (≥95% Rebaudioside M) | Current JECFA Specifications For Steviol Glycosides (JECFA, 2017a) | Method of Analysis |
|---|---|---|---|
| ***Physical and Chemical Parameters*** | | | |
| Appearance | White to off-white powder | White to light yellow powder | |
| Total steviol glycosides (anhydrous basis) | ≥95% | ≥95% total steviol glycosides[a] | TN34236 [Monograph 19 (82nd JECFA Meeting 2016)] |
| Rebaudioside M | ≥95% | N/A | TN34240 [Monograph 19 (82nd JECFA Meeting 2016)] |
| Loss on drying | ≤6% | ≤6% (105°C, 2h) | TN46040 (CRA E-46) |
| pH (1% solution) | 4.5 to 7.0 | 4.5 to 7.0 | TN60730 (AOAC 981.12) |
| Residual ethanol | ≤5,000 ppm (≤0.5%) | ≤0.5% | TN64080 (USP 32-NF 27) |
| Residual methanol | ≤200 ppm (≤0.02%) | ≤0.02% | TN64080 (USP 32-NF 27) |
| Total ash | ≤1% | ≤1% | TN09560 (AOAC 900.02) |
| Lead | ≤1 ppm | ≤1 ppm | TN44290 (AOAC 993.14) |
| Arsenic | ≤1 ppm | ≤1 ppm | TN44292 (AOAC 993.14) |
| Cadmium | ≤1 ppm | NS | TN44291 (AOAC 993.14) |
| Mercury | ≤1 ppm | NS | TN44293 (AOAC 993.14) |
| ***Microbiological Parameters*** | | | |
| **Specification Parameter** | **High-Purity Rebaudioside M (≥95% Rebaudioside M)** | **Current JECFA Specifications for Steviol Glycosides (JECFA, 2017a)** | **Method of Analysis** |
| Total plate count | <1,000 CFU/g | <1,000 CFU/g | TN10560 (CRA Microbiological Methods I-A) |
| Mold | <100 CFU/g | <200 CFU/g | TN47010 (CRA Microbiological Methods II-A-1) |
| Yeast | <100 CFU/g | <200 CFU/g | TN97010 (CRA Microbiological Methods I-A) |
| Coliforms | <3 MPN/g | NS | TN10510 (CRA Microbiological Methods IV-B) |
| *Escherichia coli* | Not detected | Not detected | TN10512 (CRA Microbiological Methods IV-B) |
| *Salmonella* | Negative/25 g | Not detected | TN10547 (CRA Microbiological Methods V-A) |

AOAC = Association of Official Analytical Chemists; CFU = colony-forming units; CRA = Corn Refiners Association; JECFA = Joint FAO/WHO Expert Committee on Food Additives; MPN = most probable number; N/A = not applicable; NS = not specified; ppm = parts per million; USP = United States Pharmacopeia.
[A] Where steviol glycosides "consists of a mixture of compounds containing a steviol backbone conjugated to any number or combination of the principal sugar moieties in any of the orientations occurring in the leaves of *Stevia rebaudiana* Bertoni including, glucose, rhamnose, xylose, fructose, deoxyglucose, galactose, and arabinose". (JECFA, 2017a).

### 2.3.2 Batch Analyses

Analysis of 3 non-consecutive lots of high-purity rebaudioside M (≥95% rebaudioside M) produced by Manus Bio demonstrates that the manufacturing process produces a consistent product which meets the established product specifications. A summary of the batch analyses is presented in Table 2.3.2-2. Product analysis has confirmed that Manus Bio's steviol glycoside product is comprised of rebaudioside M, other steviol glycosides and water.
(see appendix C for certificates of analysis)

**Table 2.3.2-2 Summary of the Product Analysis for 3 Non-Consecutive Lots of High-Purity Rebaudioside M (≥85% Rebaudioside M)**

| Specification Parameter | Limit | Manufacturing Lot No. | | |
|---|---|---|---|---|
| | | MAM060420A | MAM060520E | MAM200716J |
| Appearance | White-to-off-white powder | Pass | Pass | Pass |
| Total steviol glycosides (anhydrous basis) | ≥95% | >95 | >95 | >95 |
| Rebaudioside M | ≥95% | 97.93 | 97.01 | 97.2 |
| Loss on drying | ≤6% | 4.2 | 3.98 | 1.74 |
| pH (1% solution) | 4.5 to 7.0 | Pass | Pass | Pass |
| Residual ethanol | ≤5,000 ppm | Not Detected | Not Detected | Not Detected |
| Residual methanol | ≤200 ppm | Not Detected | Not Detected | Not Detected |
| Total ash | ≤1% | <1% | <1% | <1% |
| Lead | ≤1 ppm | <1 ppm | <1 ppm | <1 ppm |
| Arsenic | ≤1 ppm | <1 ppm | <1 ppm | <1 ppm |
| Cadmium | ≤1 ppm | <1 ppm | <1 ppm | <1 ppm |
| Mercury | ≤1 ppm | <1 ppm | <1 ppm | <1 ppm |
| Total plate count | <1,000 CFU/g | 50 CFU/g | 70 CFU/g | 500 CFU/g |

**Table 2.3.2-2 Summary of the Product Analysis for 3 Non-Consecutive Lots of High-Purity Rebaudioside M (≥95% Rebaudioside M)**

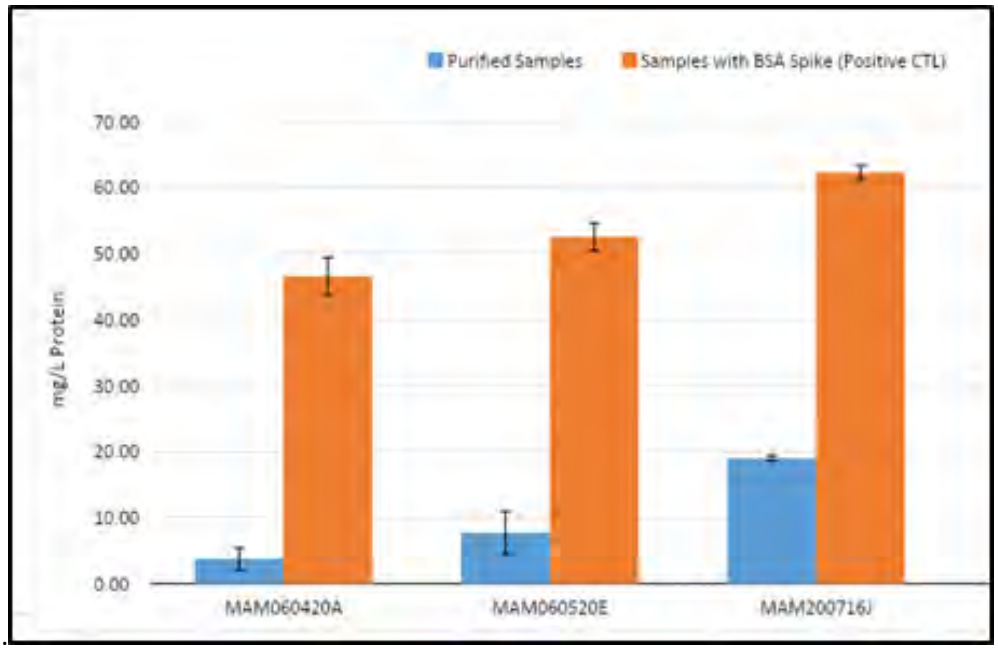
| Specification Parameter | Limit | Manufacturing Lot No. | | |
|---|---|---|---|---|
| | | MAM060420A | MAM060520E | MAM200716J |
| Mold | <100 CFU/g | <10 CFU/g | <10 CFU/g | <10 CFU/g |
| Yeast | <100 CFU/g | <10 CFU/g | <10 CFU/g | <50 CFU/g |
| Coliforms | <3 MPN/g | <3 MPN/g | <3 MPN/g | <3 MPN/g |
| *Escherichia coli* | Not detected | Not detected | Not detected | Not detected |
| *Salmonella* | Negative/25 g | Negative | Negative | Negative |

CFU = colony-forming units; MPN = most probable number; NA = not applicable; ppm = parts per million.

### 2.3.3 Residual Protein Analysis

To confirm the removal of residual protein from the final product, 3 non-consecutive batches of the high-purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides (Lot Numbers MAM060420A, MAM060520E, MAM200716J) were analyzed using the bicinchoninic acid (BCA) assay method. Samples were reconstituted to a concentration of 1 g/L and measured using a 96 well plate format BCA assay on a Tecan Infinite M1000 Pro plate reader. The limit of detection for the assay was 22.5 ppm on a w/v basis. The results of the analysis indicated that the levels of protein within the high-purity rebaudioside M material were below the limit of detection, which provides further evidence that the downstream processing successfully removed any residual proteins from the final product (for residual protein analysis see appendix D).

Table 2.3.4.1 Protein Analysis




### 2.3.4 Residual DNA Analysis

To confirm the absence of residual DNA in rebaudioside M, 3 non-consecutive lots of final product (Lot NO's MAM060520E, MAM200716J, MAM060420A) were assayed by polymerase chain reaction (PCR). Primer design and PCR conditions were designed to amplify a specific fragment of one of the genes inserted in the production strain. Extracted genomic DNA containing the selected gene was used as a positive control. Rebaudioside M samples were prepared in aqueous solution and assayed by PCR at a final concentration of 100 mg/L. Samples were assayed with or without positive control DNA at a final concentration of 1 ng/µL. A standard curve was prepared from 1 ng/µL to 0.1fg/µL to determine the limit of detection of the assay (320 fg/µL). All samples with a positive control spike showed an expected PCR product, whereas all the Reb M samples without a genomic DNA spike showed no product. The gel images were analyzed using ImageJ for quantitative analysis. Background subtracted mean grey values from each of the

samples were fit to values from the standard curve and found to be below the limit of detection of the assay. These results confirm the absence of residual genomic DNA in the Rebaudioside M final product above the analytical limit of detection of 320 fg/µL. (For residual DNA analysis see appendix E).

Table 2.3.4-2 **Absence of residual DNA**

| Sample | Background Subtracted Mean Grey Value | Calculated Concentration (ng/µL) |
|---|---|---|
| 1.MAM060420A | -0.877 | below LOD |
| 2.MAM060520E | -0.771 | below LOD |
| 3.MAM200716J | -0.431 | below LOD |

*LOD = limit of detection

### 2.3.5 Pesticide Residue

A combined LC & MS / GC & MS screen using QuEChERs method for pesticide residues was conducted on the starting stevia leaf material (≥90% total steviol glycosides; Lot # 202003051 and Lot #201901171) demonstrated the absence of residues of commonly used pesticides in the product. (see Appendix F for pesticide residue data).

## 2.4 Stability Data

A number of scientific and authoritative bodies, including JECFA, the European Food Safety Authority (EFSA), and Food Standards Australia/New Zealand (FSANZ), have reviewed the stability of steviol glycosides. The stability of steviol glycosides also are discussed in several published studies (Chang and Cook, 1983; Kroyer, 1999; Oehme *et al.,* 2017). At the 68$^{th}$ meeting, JECFA evaluated the stability of steviol glycosides under conditions mimicking their use in foods and noted that steviol glycosides do not undergo browning or caramelization when heated and are stable under elevated temperatures (JECFA, 2007). In addition, steviol glycosides (approximately 90 to 94% purity) are stable for at least 180 days when stored at temperatures up to 24°C and pH 2.0 to 4.0. However, at elevated temperatures (80°C), steviol glycoside solutions maintained in water and pH 4.0 and 3.0 for 8 hours showed 4 and 8% decomposition, respectively. At temperatures of 100°C, higher rates of decomposition were observed, with 10 and 40% decomposed at pH 4.0 and 3.0, respectively. These results indicate that the stability of steviol glycosides is pH and temperature dependent. Based on the available evidence, JECFA concluded that steviol glycosides are thermally and hydrolytically stable for use in foods and acidic beverages under normal processing and storage conditions. (JECFA, 2007)

The U.S. FDA has reviewed the stability of high-purity rebaudioside M preparations in previous GRAS notices (GRN812, GRN759, GRN745, GRN744, GRN512, GRN882, GRN780 and GRN 846) (U.S. FDA, 2018, 2018, 2014, 2019, 2018, 2019). There exists a number of studies on the stability of steviol glycosides, including stevioside, rebaudioside A, and rebaudioside M, under different storage conditions (*e.g.,* in different forms, such as powder and solution, in acidic conditions, and various temperatures) and in the publicly-available scientific literature (Wood *et al.,* 1955; Chang and Cook, 1983; Kinghorn, 2002; Cargill, 2008; Merisant, 2008; Chaturvedula *et al.,* 2013; Prakash *et al.,* 2014). These studies are discussed in detail in GRN512, GRN667, GRN780, and GRN846 and are incorporated by reference in this notice. Ultimately, the results of these stability studies suggest that the stability of steviol glycosides is pH- and temperature-dependent, which are consistent with the conclusions of JECFA (2007). More recently, a study evaluating the structural

stability of 3 commercial batches each of the dried stevia leaves, the first aqueous infusion of the ground stevia, and a high-purity stevia leaf extract (≥95% steviol glycosides) confirmed that the processing steps do not chemically alter or modify the steviol glycoside content (Oehme *et al.,* 2017).

In addition to the stability studies within the scientific literature, storage stability studies on rebaudioside M were discussed in GRN 512 and GRN 667. GRN 512 presented the results of a stability test on 1 batch of Rebpure™ RM95, which contains ≥95% rebaudioside M (U.S. FDA, 2014). In this study, a sample of Rebpure™ RM95 was stored at 25±5°C and relative humidity of 60±5% for up to 8 weeks. The results of the study demonstrate that the rebaudioside M and the total steviol glycoside content remained ≥95% over the course of the 8-week study period. GRN 667 presented the results of an accelerated storage stability study on rebaudioside M (≥95% rebaudioside M) when stored at 40±2°C and relative humidity of 75±5% for up to 6 months (U.S. FDA, 2016). Over the course of the accelerated stability study, rebaudioside M was observed to be stable in that the rebaudioside M content did not change over the 6-month period and remained ≥95% rebaudioside M.

The results of these storage stability studies are consistent with the results reviewed by JECFA (2007) in that the stability of steviol glycosides, including rebaudioside M, are thermally stable under normal storage conditions.

Furthermore, while the rebaudioside M content of Manus Bio's high-purity rebaudioside M and that of the preparations described in GRN 512, GRN 667, GRN 745, GRN 759,GRN 780, GRN 799, GRN 812, GRN 846, & GRN 882 are similar in all rebaudioside M preparations (*i.e., ≥85% to* ≥95% total steviol glycosides), Rebaudioside M is expected to exhibit similar chemical stability to other closely related steviol glycosides (*e.g.* stevioside & rebaudioside A) based on their chemical structure similarity. Therefore, it is anticipated that the results of the stability studies on the rebaudioside M preparations described in GRN 512, GRN 667, be GRN 745, GRN 759, GRN 780, GRN 799, GRN 812, GRN 846, & GRN 882and the results of the stability studies available in the publicly-available scientific literature, can be extended to support the stability of Manus Bio's high-purity rebaudioside M (≥95% rebaudioside M).

Manus Bio is currently conducting an accelerated stability study on 1 batch of high purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides (Lot No. MAM0605520E). In this study, samples of approximately 25 g of high purity rebaudioside M (≥95% rebaudioside M) are stored at 50°C in polypropylene jars with screw top lids and heat sealed in order to mimic the commercial packaging. Total steviol glycosides and Rebaudioside M content have been measured by HPLC at baseline and at 1, and 3 months. The moisture content was measured by gravimetric moisture balance.

Preliminary results at 3 months indicate no significant changes in Rebaudioside M or steviol glycosides content (Table 2.4-1). The accelerated stability study is currently on- going.

**Table 2.4-1 Results of an Accelerated Stability Study on 1 Batch of High-Purity Rebaudioside M (≥95% Rebaudioside M) (Lot No MAM 060520E) (Study Currently On-going)**

| Parameter | Month | | | |
|---|---|---|---|---|
| | 0 (baseline) | 1 | 3 | 6 |
| Total steviol glycosides (%) (dry basis) | 98.49 | 98.49 | 97.27 | TBD |
| Rebaudioside M (%) (dry basis) | 97.01 | 97.01 | 96.79 | TBD |

TBD = to be determined.

# Part 3. §170.235 Dietary Exposure

## 3.1 Intended Use of High-Purity Rebaudioside M (≥95% Rebaudioside M) and Levels of Use in Foods

High purity rebaudioside M (≥95% rebaudioside M) is intended for use as a general-purpose sweetener in accordance with cGMP, excluding infant formulas, meat and poultry products. High purity rebaudioside M (≥95% rebaudioside M) has a sweetness intensity of approximately 250 times that of sucrose. To date, the U.S. FDA raised no questions regarding the use of other high-intensity sweeteners, including other steviol glycoside preparations, as general-purpose sweeteners that have no restrictions on their specific food uses and use-levels. In addition, the use-levels of high-intensity sweeteners are restricted based on the technological properties of the sweetening agent (*i.e.,* sweetness potency). Therefore, considering that steviol glycosides, including the ingredient that is the subject of this GRAS notice, are characterized by a sweetness profile that is, for the most part, comparable to other high-intensity sweeteners, the uses and use-levels of high-purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides will likely reflect those currently permitted for other high-intensity sweeteners in the U.S.

## 3.2 Estimated Consumption of High-Purity Rebaudioside M (≥95% Rebaudioside M) Based upon Intended Food Uses

### 3.2.1 History of Consumption of Steviol Glycosides

*Stevia rebaudiana* and the individual steviol glycosides derived from the plant have been consumed as sweeteners in various foods and beverages since the late 1800s (Geuns, 2003). According to Blumenthal (1995) and Geuns (2003), the native peoples of Brazil and Paraguay have consumed the *S. rebaudiana* plant for hundreds of years as a food ingredient and as a tea. Similarly, *S. rebaudiana* became a popular herbal tea ingredient in the U.S. in the 1980s (Blumenthal, 1995; Ferlow, 2005). Stevioside, the first isolated steviol glycoside from the *S. rebaudiana* leaf, has been consumed in Japan for more than 30 years (Geuns, 2003; Ferlow, 2005). Approximately 160,000 metric tons of stevioside, as sucrose equivalents, were reportedly consumed in Asia in 1995; in 1999, this level increased to approximately 200,000 metric tons as sucrose equivalents (International Sugar Organization, 2001).

### 3.2.2 Estimated Consumption of High-Purity Rebaudioside M (≥95% Rebaudioside M) from Proposed Food Uses

The dietary consumption of various steviol glycoside preparations has been estimated using a post-market surveillance approach as outlined in a number of GRAS notices for steviol glycosides submitted to the U.S. FDA (*e.g.,* GRN 667, 715, 733, 745, 759, 780, 799, 812, 846, and 882). Generally, this approach uses the data from Renwick (2008) in which dietary exposure to Rebaudioside A was estimated based on the available post-market surveillance data for other high-intensity sweeteners, and by assuming full replacement of the currently approved high-intensity sweeteners with the new sweetener [*i.e.,* high-purity rebaudioside M (≥95% rebaudioside M)]. While conservative, this approach yields intake estimates that are realistic as they reflect actual post-market intakes of high-intensity sweeteners. Renwick (2008) estimated the average and high-end dietary intakes of Rebaudioside A as sucrose equivalents in various population groups, such as non-diabetic and diabetic adults and children, and adjusted the values accordingly using the sweetness intensity of Rebaudioside A relative to sucrose (approximately 200).

This post-market surveillance approach can be used to estimate the dietary intakes of high purity rebaudioside M (≥95% rebaudioside M) (Table 3.2.2-1) in similar population groups. Manus Bio determined that high purity rebaudioside M (Nutrasweet M™)(≥95% rebaudioside M) is approximately 250 times sweeter than sucrose. This is based on the results of a sweetness potency test conducted with an expert taste panel at Brison, an independent third-party sensory company.

The estimated intake values for high-purity rebaudioside M (≥95% rebaudioside M) were calculated based on the sweetness potency and the molecular weight of Rebaudioside M.

**Table 3.2.2-1 Estimated Consumption High-Purity Rebaudioside M (≥95% Rebaudioside M) Using the Intense Sweetener Intake Assessment Methodology described by Renwick (2008)**

| Population Group | Intakes of Intense Sweeteners (expressed as sucrose equivalents) (mg/kg bw/day) | | Consumption Estimates | | | |
|---|---|---|---|---|---|---|
| | | | High-Purity Rebaudioside M (≥95% Rebaudioside M)[a] (mg/kg bw/day) | | High-Purity Rebaudioside M (≥95% Rebaudioside M)[a,b] (mg/kg bw/day) as Steviol | |
| | Average Consumer | High Consumer | Average Consumer | High Consumer | Average Consumer | High Consumer |
| Non-diabetic adults | 255 | 675 | 1 02 | 2.7 | 0.26 | 0.68 |
| Diabetic adults | 280 | 897 | 1.12 | 3.59 | 0.28 | 0.9 |
| Non-diabetic childre | 425 | 990 | 1.7 | 3.96 | 0.43 | 0.99 |
| Diabetic children | 672 | 908 | 2.69 | 3.63 | 0.67 | 0.91 |

bw = body weight.
[a] Approximately 250 times as sweet as sucrose.
[b] Calculated based on the molecular weights of steviol (318.45 g/mol) and Reb M (1,291.3 g/mol) [steviol conversion factor of 0.25].

For non-diabetic adults, average and high-end intakes of high purity rebaudioside M (≥95% rebaudioside M) of up to 0.26 and 0.68 mg/kg body weight/day expressed as steviol equivalents, respectively, were calculated. For diabetic adults, average and high-end intakes were slightly higher at up to 0.28 and 0.90 mg/kg body weight/day. Average and high-end exposures to high purity rebaudioside M (≥95% rebaudioside M), expressed as steviol equivalents, in non-diabetic children were calculated to be up to 0.43 and 0.99 mg/kg body weight/day, respectively. Although average intakes of high purity rebaudioside M (≥95% rebaudioside M), expressed as steviol equivalents, were estimated to be higher at up to 0.67 mg/kg body weight/day in diabetic children compared to values for non-diabetic children, high-end values in diabetic children (0.91 mg/kg body weight/day) were lower than high-end values in non-diabetic children. The predicted intakes of high-purity rebaudioside M (≥95% rebaudioside M), expressed as steviol equivalents, are all below the current acceptable daily intake (ADI) defined by the JECFA for steviol glycosides (FAO, 2016) of 0 to 4 mg/kg body weight/day as steviol.

In 2008, JECFA considered various intake models for the estimation of dietary exposure to steviol glycosides, including the intake analysis conducted by Renwick (2008) as part of their evaluation of the safety of steviol glycosides. Although higher intake estimates than those presented by Renwick (2008) were identified using other methodologies, including ones considering replacement of all sweeteners used in or as food (up to approximately 6 mg/kg body weight/day, expressed as steviol equivalents), JECFA noted that such replacement estimates were highly conservative and that actual exposures to steviol glycosides (expressed

as steviol equivalents) would be 20 to 30% of these values (1 to 2 mg/kg body weight/day, expressed as steviol equivalents). JECFA also noted that the post-market surveillance approach further confirmed the lower intake estimate range.

## Part 4. §170.240 Self-Limiting Levels of Use

The use of high purity rebaudioside M (≥95% rebaudioside M) is largely limited by the desired sweetness intended for a particular food or beverage product. Therefore, the use of high purity rebaudioside M (≥95% rebaudioside M) as a general-purpose sweetener in foods is self-limiting based on its organoleptic properties.

## Part 5. §170.245 Experience Based on Common Use in Food Before 1958

Not applicable as high purity rebaudioside M (≥95% rebaudioside M) was not used in food before 1958.

## Part 6. §170.250 Narrative and Safety Information

The safety of steviol glycosides has been extensively reviewed by the U.S. FDA in a number of GRAS notices. The Agency raised no objections to 57 GRAS notices describing the GRAS status of major individual steviol glycosides, including stevioside, rebaudiosides A, C, D, E, I, M, and X/M, mixtures of steviol glycosides, and glucosylated and enzyme-modified steviol glycosides (GRNs 252, 253, 275, 278, 282, 287, 303, 304, 318, 323, 329, 337, 348, 349, 354, 365, 367, 369, 375, 380, 388, 389, 393, 395, 418, 448, 452, 456, 461, 467, 473, 493, 512, 516, 536, 548, 555, 607, 619, 626, 632, 638, 656, 662, 667, 702, 715, 733, 744, 745, 759, 780, 799, 812, 823, 846, 867, 878, 882, 911).

In addition to the U.S. FDA, the safety of steviol glycosides has been reviewed by several scientific bodies and regulatory agencies, including JECFA, European Commission's Scientific Committee on Food (SCF), EFSA, FSANZ, and Health Canada. The existing safety database on steviol glycosides includes an extensive evaluation of the metabolism and pharmacokinetics of steviol glycosides in rodents and humans, and a standard battery of toxicological tests, including acute toxicity, short- and long-term toxicity and carcinogenicity, reproductive and developmental toxicity, *in vitro* and *in vivo* mutagenicity and genotoxicity, as well as several human studies.

Much of the early studies investigating the safety of steviol glycosides were conducted with stevioside, the predominant steviol glycoside in *S. rebaudiana* leaves (Aze *et al.*, 1991; Toyoda *et al.*, 1997). Since then, additional toxicity testing has been conducted on rebaudioside A and D (Curry and Roberts, 2008; Curry *et al*., 2008; Nikiforov and Eapen, 2008; Williams and Burdock, 2009). Due to the common metabolic fate of steviol glycosides, the scientific bodies and regulatory agencies described above have extended their safety opinions to include all steviol glycosides, rather than individual steviol glycosides (JECFA, 2017a,b).

Thus, considering that the existing safety database on steviol glycosides has been extensively reviewed by the U.S. FDA, the pertinent generally available data and information used to support the safety of steviol glycosides, including major individual steviol glycosides and other steviol glycoside mixtures/preparations, is incorporated by reference to information cited within prior GRAS notifications.

Updated searches of the scientific literature were conducted through November 2020 to identify new data and information relevant to the safety of steviol glycosides that have been published since the U.S. FDA's last review. Given the shared metabolic fate of steviol glycosides, the safety of high-purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides can be supported based on the existing safety database for steviol glycosides, the safety conclusions for steviol glycosides by JECFA and other scientific and regulatory authorities/bodies, and the safety of the production strains. At the time of preparation of this GRAS notice, GRN 882 was the most recent steviol glycoside GRAS notice to receive a "no questions" letter from the U.S. FDA which summarized literature prior to March 2019.

## 6.1 Absorption, Distribution, Metabolism, and Elimination

An extensive database exists outlining the metabolic fate (absorption, distribution, metabolism, and elimination) of steviol glycosides. The available data and information on the metabolic fate of individual steviol glycosides as discussed in detail in several GRAS notices (*e.g.,* GRN 619, 626, 667) is incorporated by reference in this dossier. Briefly, steviol glycosides are not hydrolyzed in the upper gastrointestinal tract due to the presence of β-glycosidic bonds; the unchanged steviol glycosides enter the colon and are subject to microbial degradation by the gut microflora, resulting in the release of the aglycone steviol (Wingard *et al*., 1980; Hutapea *et al*., 1997; Gardana *et al*., 2003; Koyama *et al*., 2003a,b; Geuns *et al*., 2003, 2007; Renwick and Tarka, 2008; Nikiforov *et al.*, 2013; Purkayastha *et al.,* 2016). Specifically, Purkayastha et al. (2016) conducted incubation studies with pooled human fecal homogenates collected from adult males and females using rebaudiosides A, B, C, D, E, F, M, steviolbioside and dulcoside A, and showed that all glycosides were converted to steviol over a 24–48 h incubation period. These studies demonstrated that the number and location of sugar units attached to the steviol backbone do not significantly affect the microbial hydrolysis. Likewise, this study demonstrated that steviol glycosides, irrespective of the type of sugar moiety (e.g., glucose, rhamnose, xylose) attached to the steviol backbone, were metabolized to steviol at generally similar hydrolysis rates. Incubation tests were also conducted in fecal homogenates collected from adult and pediatric populations with steviol glycoside from stevia leaf extracts and steviol glycosides produced by enzymatic conversion of Reb A to larger molecules by attaching glucose units via β- or α-glycosidic bonds. The steviol glycosides produced by extraction from stevia leaf or enzymatic conversion of stevia leaf extract were also reported to share a similar metabolic fate in the fecal homogenates from adults and children supporting a similar metabolic fate of steviol glycosides in all ages (Purkayastha 2020). Steviol glycosides are hydrolyzed sequentially, in which one sugar moiety is removed at a time, with the degradation rates dependent on the structural complexity of each steviol glycoside (Wingard *et al*., 1980; Koyama *et al*., 2003b). Despite the differences in chemical structure, however, the rates of hydrolysis of different steviol glycosides to steviol are relatively similar, especially during the first 24 hours of incubation in *in vitro* metabolic studies with human fecal homogenates (Purkayastha *et al.,* 2014, 2015, and 2016). Following microbial degradation, the steviol metabolite is absorbed systemically into the portal vein and distributed to the liver, spleen, adrenal glands, fat, and blood (Nakayama *et al*., 1986; Sung, 2002 [unpublished]; Koyama *et al*., 2003b; Wang *et al*., 2004; Roberts and Renwick, 2008). Steviol is conjugated to glucuronic acid to form steviol glucuronide in the liver. The steviol glucuronide metabolite and any unconjugated steviol or unhydrolyzed fraction of the administered glycosides are excreted primarily in the urine, and, to a lesser extent, feces in humans (Wingard *et al*., 1980; Nakayama *et al*., 1986; Kraemer and Maurer, 1994; Sung, 2002 [unpublished]; Geuns and Pietta, 2004 [unpublished]; Simonetti *et al*., 2004; Geuns *et al*., 2006, 2007; Roberts and Renwick, 2008; Wheeler *et al*., 2008).

In summary, due to the common molecular structure for steviol glycosides, consisting of a steviol backbone conjugated to different numbers and types of sugar moieties, all individual steviol glycosides share a common metabolic fate, as described above. Therefore, the safety database that has been established for individual steviol glycosides (*e.g.,* stevioside, Rebaudioside A, Rebaudioside D) can be extrapolated to support the safe use of purified steviol glycosides in general, regardless of the steviol glycoside distribution of the preparation, including high-purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides.

## 6.2 Summary of Safety Evaluations on Steviol Glycosides by Scientific and Regulatory Authorities/Bodies

The safety of steviol glycosides was reviewed by JECFA at their 51$^{st}$, 63$^{rd}$, 68$^{th}$, 69$^{th}$, 82$^{nd}$ 86$^{th}$ and 87 $^{th}$ meetings in 1998, 2004, 2007, 2008, and 2016, 2018 and 2019 respectively. In addition, the safety of steviol glycosides has been reviewed by FSANZ, the European Commission's SCF, the EFSA, and Health Canada (SCF, 1985, 1999; FSANZ, 2008; EFSA, 2010, 2015; Health Canada, 2012). These scientific bodies and regulatory agencies have unanimously concluded that consumption of steviol glycosides is not a safety concern and have established an ADI of 0 to 4 mg/kg body weight, expressed as steviol equivalents. Subsequent to these evaluations, EFSA concluded that "*extending the current specifications to include [two additional steviol glycosides], rebaudiosides D and M, as alternatives to Reb A in the predominant components of steviol glycosides would not be of safety concern*" (EFSA, 2015), while EFSA, JECFA, FSANZ, and Health Canada recently expanded the definition of steviol glycosides to include all individual steviol glycosides present in the *S. rebaudiana* Bertoni leaf (EFSA, 2020; FSANZ, 2017; Health Canada, 2017; JECFA, 2017a,b). In addition to these safety evaluations, the U.S. FDA has reviewed the safety of 57 different steviol glycoside preparations and has consistently raised no objections regarding the GRAS status of steviol glycosides. The FAO JECFA Monographs 23 defines enzymatic conversion as a process in which steviol glycosides that have been extracted from the leaves of Stevia rebaudiana Bertoni undergo enzymatic conversion of major steviol glycosides to minor ones. Annex 3 JECFA (2019) monograph 23 defines Enzyme-modified steviol glycosides as a mixture of compounds containing a steviol backbone conjugated to any number or combination of the principal sugar moieties (glucose, rhamnose, xylose, fructose, arabinose, galactose and deoxyglucose) in any of the orientations occurring in the leaves of Stevia rebaudiana Bertoni. The product is obtained from the enzymatic treatment of purified steviol glycosides extracted from the leaves of Stevia rebaudiana Bertoni. The purified leaf extract is treated with enzymes produced by non-toxigenic nonpathogenic strains of Pichia pastoris and Escherichia coli that have been genetically modified with genes from multiple donor organisms to produce glucosyltransferase (EC 2.4.1.17) and sucrose synthase (EC 2.4.1.13). The resulting material is heated and filtered to denature and remove the enzymes. The raw product is concentrated using resin adsorption/desorption or solid/liquid filtration, followed by purification and preparation of the product of commerce using processes that may include decolonization, crystallization, and spray drying. This manufacturing technique maximizes the production of specific steviol glycosides that are not naturally present in high concentrations in the leaf extract, primarily rebaudioside M and rebaudioside D with minor amounts of other steviol glycosides. (87th JECFA (2019) and published in FAO Monographs 23 (2019)).

In these evaluations, the safety data and information that were reviewed by these scientific bodies and regulatory agencies were generally available in the published scientific literature. In a 2-year study in rats, a no-observed-adverse- effect level (NOAEL) of 970 mg/kg body weight/day, equivalent to 383 mg/kg body weight/day as steviol, was determined (Toyoda *et al.,* 1997). The results of the study by Toyoda *et al.* (1997)

was the basis for the established ADI of 0 to 4 mg/kg body weight, expressed as steviol equivalents, for steviol glycosides following application of a safety factor of 100 (JECFA, 2006; FSANZ, 2008; EFSA, 2010; Health Canada, 2012).

## 6.3 Additional Safety Data for Steviol Glycosides

The safety of steviol glycosides has been extensively reviewed in a number of GRAS notifications submitted to the U.S. FDA, as outlined above, which are incorporated by reference in this notice. The safety of steviol glycosides was most recently evaluated by the U.S. FDA in its evaluation of GRN 882 for purified steviol glycosides, which included a comprehensive search of the scientific literature to capture publications relevant to the safety of steviol glycosides up to March 2019. In order to identify new data related to the safety of steviol glycosides following the U.S. FDA review of GRN 882, a comprehensive search of the scientific literature was conducted from March 2019 to November 2020. The search was limited to articles with full texts within peer-reviewed scientific journals. The literature search was completed using ProQuest and included searches of the following databases for pertinent literature on the safety of steviol glycosides: BIOSIS® Toxicology, BIOSIS Previews®, CAB ABSTRACTS, Embase®, Lancet Titles, MEDLINE®, New England Journal of Medicine, NTIS: National Technical Information Service, Registry of Toxic Effects of Chemical Substances (RTECS®), ToxFile®, TOXLINE. A number of studies reporting results from non-standardized toxicological tests with steviol glycosides for assessing human safety were identified in the literature search. Upon close inspection of the study titles it was determined that a recent study conducted by Purkayastha et al (2020) provided additional information regarding metabolism in children and so was included within the notifiction, the remainder were considered to be of limited relevance with respect to the overall safety assessment of steviol glycosides as determined by International regulatory Authorities, including the U.S. FDA. Overall, theadditional studies identified in the updated search of the scientific literature did not call into question the safety of steviol glycosides. (see Appendix G)

## 6.4 Safety of the Production Strains

The production strains are derived from *E. coli* K-12. The genome of *E. coli* K-12 has been sequenced and confirms the absence of antibiotic resistance genes and other sequences of concern (Blattner *et al.*, 1997; Hayashi *et al.*, 2006; NCBI, 2018). Furthermore, the *E. coli* parental strain is a member of the well- defined family *Enterobacteriaceae.* All overexpressed genes originated from biosafety level 1 organisms that are not associated with any known allergens or toxins. The manufacturing process includes steps for sterilization and purification procedures to remove DNA and proteins. Analysis of 3 non-consecutive batches of high purity rebaudioside M (≥95% rebaudioside M) demonstrates the successful removal of DNA, and any proteins from the final product. JECFA monograph 23 has also indicated that *E.coli* is an acceptable microorganism to produce the enzymes used in the enzymatic conversion process.

### 6.4.1 History of Use and the Production Strain

*E. coli* K-12 has been in use as a laboratory organism for over 50 years and it constitutes one of the most extensively characterized microorganisms (Bachmann, 1972; Jensen, 1993). Along with its use in laboratory research, *E. coli* K-12 has a long history of safe use in the food and pharmaceutical industries. Chymosin, a food enzyme preparation used in the production of cheese, derived from a genetically modified *E. coli* K-12 strain was affirmed as GRAS by the U.S. FDA in 1990 (Flamm, 1991; Olempska-Beer *et al.*, 2006). In addition,

FDA review of GRN 745 concerning the production of Rebaudioside M using a strain of *E. coli* K-12 received "no questions" from the Agency regarding its GRAS status for use in the production of Steviol Glycosides with a high Rebaudioside M content. (U.S. FDA, 2018).

### 6.4.2 Pathogenicity/Toxicogenicity of the Parental Strain

As discussed in GRN 745, *E. coli* K-12 is not considered a human or animal pathogen and has been classified as Biosafety Level 1 according to the NIH Guidelines (NIH, 2016). *E. coli* K-12 is often used as a reference organism when investigating the virulence factors of pathogenic *E. coli* strains as it is non-pathogenic (Blanc-Potard *et al.*, 2002; Kaper *et al.*, 2004). This species and its derivatives are unable to colonize the mammalian gastrointestinal tract, and do not produce toxins such as Shiga toxin, and are unable to persist in the soil and water (Bogosian *et al*., 1996; U.S. EPA, 1997). As previously described, the parental strain does not carry any introduced antibiotic resistance genes and the complete genome of this strain has been sequenced, confirming the absence of any toxigenic potential (Blattner *et al.*, 1997; Hayashi *et al.*, 2006).

### 6.4.3 Potential Allergenicity of the Enzymes

The potential allergenicity of all non-native enzymes was investigated using an *in silico* approach. A sequence homology search was conducted according to the approach outlined by the Food and Agriculture Organization of the United Nations (FAO)/World Health Organization (WHO) (2001) and the WHO/FAO (2009) using the Allergen Online Database Version 20 (available at http://www.allergenonline.org; updated February 2020) maintained by the Food Allergy Research and Resource Program (FARRP) of the University of Nebraska (FARRP, 2020). This was done to confirm that the enzymes do not contain amino acid sequences similar to other known allergens that might produce an allergenic response. The database contains a comprehensive list of putative allergenic proteins developed via a peer reviewed process for the purpose of evaluating food safety.

No matches were identified from searching with the full amino acid sequence for each enzyme. According to the FARRP guidelines, an identity threshold of greater than 50% or an E-score lower than $1x10^{-7}$ suggest cross-reactivity with the known allergen to be a possibility.

A second homology search was conducted according to the approach outlined by the FAO/WHO (2001) and the WHO/FAO (2009). In accordance with this guideline, the Allergen Online database was searched using a sliding window of 80-amino acid sequences (segments 1-80, 2-81, 3-82, etc.) derived from the full-length amino acid sequence for each enzyme. The 80-amino acid alignment search was conducted using default settings (E value cutoff = 1 and maximum alignments of 20). Significant homology is defined as an identity match of greater than 35% (Codex Alimentarius, 2009). Using this search strategy, again no matches were identified and the level of protein in the final product NutraSweet M™ is reported as below the limit of detection.

## 6.5 GRAS Panel Evaluation

Manus Bio has concluded that high-purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides, meeting appropriate food-grade specifications and manufactured consistent with cGMP, is GRAS for use as an ingredient in various food products, as described in Part 1.3, on the basis of scientific procedures. Manus Bio's high-purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides is substantially equivalent to other steviol glycoside products currently on the U.S. market, including those produced by enzymatic conversion using E. coli K-12

as the host micro-organism for producing the enzymes used in the enzymatic conversion process as well as those extracted from the leaves of *S. rebaudiana.*

The GRAS status of high-purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides is based on conclusions of scientific bodies and regulatory authorities regarding steviol glycoside safety, data generally available in the public domain pertaining to the safety of steviol glycosides, and a unanimous opinion among a panel of experts ('the GRAS Panel'), who are qualified by scientific training and experience to evaluate the safety of food ingredients. The GRAS Panel consisted of the following qualified scientific experts: Ashley Roberts Ph.D. President AR Toxicology Inc., Jose -Avalos, Ph.D. Princeton University Princeton, NJ., and Stanley M. Tarka, Jr., Ph.D. (The Tarka Group Inc., and The Pennsylvania State University, College of Medicine).

The GRAS panel, convened by Manus Bio, independently and critically evaluated all data and information presented herein, and concluded that high-purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides is GRAS for use as a general purpose sweetener, as described in Section 1.3, based on scientific procedures. A summary of data and information reviewed by the GRAS Panel and evaluation of such data as it pertains to the proposed GRAS uses of high-purity rebaudioside M (≥95% rebaudioside M), are presented in Appendix A.

## 6.6 Conclusions

Based on the data and information presented herein, Manus Bio has concluded high-purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides, meeting appropriate food-grade specifications, and manufactured according to cGMP, is safe for use as a general purpose sweetener as presented in Section 1.3. Manus Bio also has further concluded that pivotal data and information relevant to the safety of high-purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides are publicly available and therefore the intended uses of high-purity rebaudioside M (≥95% rebaudioside M) can be concluded to be GRAS on the basis of scientific procedures.

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# APPENDIX A
# GRAS Panel Consensus Report

# APPENDIX A:

## GRAS Panel Report Concerning the Generally Recognized as Safe (GRAS) Status of high-purity Rebaudioside M (≥95% Rebaudioside M) produced by enzymatic conversion of stevia leaf extract.

**November 10, 2020**

## INTRODUCTION

Manus Bio intends to market high purity rebaudioside M (≥95% rebaudioside M) and identified as NutraSweet M™, and produced via enzymatic conversion for use as a general purpose sweetener in the United States (U.S.). Steviol glycosides have historically been obtained by hot water extraction from the leaves of *Stevia rebaudiana* Bertoni and solvent purification. More than 40 different steviol glycosides have been identified in the leaf extracts to date. Manus Bio has developed an alternative manufacturing process to produce rebaudioside M. Manus Bio's high-purity rebaudioside M (≥95% rebaudioside M) is produced through enzymatic conversion of steviol glycosides (≥90% total steviol glycosides) extracted from *S. rebaudiana* Bertoni using UDP- glucosyltransferase enzymes derived from genetically modified *Escherichia coli* strains derived from *E. coli* K-12. High-purity rebaudioside M is comprised of ≥95% rebaudioside M and ≥95% total steviol glycosides, which meets or exceeds the ≥95% steviol glycoside purity criteria established by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Food Chemicals Codex.

At the request of Manus Bio, an Expert Panel of independent scientists (the GRAS Panel), qualified by their relevant national and international experience and scientific training to evaluate the safety of food ingredients, was specially convened to conduct a critical and comprehensive evaluation of the available pertinent data and information, and to determine whether, under the conditions of intended use as a sweetening agent, high-purity rebaudioside M (≥95% rebaudioside M) would be Generally Recognized as Safe (GRAS), based on scientific procedures. The GRAS Panel consisted of the below-signed qualified scientific experts: Ashley Roberts Ph.D., President AR Toxicology Inc.; Jose -Avalos, Ph.D. Princeton University, Princeton, NJ., and Stanley M. Tarka Jr., Ph.D. (The Tarka Group Inc., and The Pennsylvania State University, College of Medicine). For purposes of the GRAS Panel's evaluation, "safe" or "safety" means there is a reasonable certainty in the minds of competent scientists that the substance is not harmful under the intended conditions of use, as defined by the U.S. Food and Drug Administration (FDA) in 21 CFR 170.3(i) (U.S. FDA, 2017).

The GRAS Panel independently and collectively evaluated a dossier titled "*Documentation Supporting NutraSweet M as Generally Recognized as Safe (GRAS) for Use as a General Purpose Sweetener*", which included a comprehensive summary of scientific information on high-purity rebaudioside M (≥95% rebaudioside M). This dossier was prepared with information available in the public domain and also included details pertaining to the manufacturing method, product specifications and supporting batch analyses, intended uses and use-levels in food and beverages, consumption estimates for all intended uses, and a summary of the scientific literature pertaining to the safety of steviol glycosides. The GRAS Panel also evaluated other information deemed appropriate or necessary.

Following their independent and critical evaluation of such data and information, the GRAS Panel convened on November 25th 2020 *via* teleconference and unanimously concluded that the intended use described herein for high-purity rebaudioside M (≥95% rebaudioside M), meeting appropriate food-grade specifications as described in the supporting dossier and manufactured according to current Good Manufacturing Practice (cGMP), is safe, suitable, and GRAS based on scientific procedures. A summary of the basis of the GRAS Panel's conclusion is presented below.

## CHEMISTRY AND MANUFACTURING

The subject of this GRAS evaluation is high-purity rebaudioside M (≥95% rebaudioside M), which is a highly purified product comprised of ≥95% rebaudioside M and ≥95% total steviol glycosides, consistent with the purity criteria for steviol glycosides as established by JECFA (JECFA, 2017a,b). The remaining 5% of high- purity rebaudioside M (≥95% rebaudioside M) includes additional steviol glycosides and water. Due to the common steviol backbone, all steviol glycosides share a common metabolic fate in which they are hydrolyzed to steviol in the lower gastrointestinal tract, which is then absorbed into the body, conjugated with glucuronic acid, and eliminated through the urine in humans.

High-purity rebaudioside M (≥95% rebaudioside M) is manufactured using raw materials, processing aids, and equipment that are food-grade ingredients[1], permitted by U.S. regulation, have GRAS status, or have been self-affirmed as safe for use in food for their respective uses. The high-purity rebaudioside M (≥95% rebaudioside M) product is manufactured by an enzymatic conversion process using MG1655 derived from modified *E. coli* strains derived from *E. coli* K-12. High-purity rebaudioside M (≥95% rebaudioside M) is manufactured in a multi-stage process; in the first step steviol glycosides are extracted from the stevia leaf by a series of crushing, dissolution, extraction, and precipitation steps that are consistent with the methodology outlined in the CTA for steviol glycosides (FAO, 2016). The steviol glycoside mixture contains ≥90% total steviol glycosides. In the second stage, the production strains are introduced to the media containing the glycosides, and nutrients and undergo enzymatic conversion. In the final stage the resulting steviol glycoside mixture is purified in a series of filtration and washing steps to yield a final product containing ≥95% rebaudioside M and ≥95% total steviol glycosides.

Appropriate food-grade product specifications have been established for high-purity rebaudioside M (≥95% rebaudioside M) based on the steviol glycosides specification established by JECFA (JECFA, 2017a,b.). The steviol glycoside content of high-purity rebaudioside M (≥95% rebaudioside M) is measured using the high-performance liquid chromatography (HPLC) method described in the JECFA specification monograph for steviol glycosides from *Stevia rebaudiana* Bertoni (JECFA, 2017a,b). Review by the GRAS Panel of the analytical data for 3 non-consecutive lots of high purity rebaudioside M (≥95% rebaudioside M) confirms that the final product is produced in compliance with the established product specifications. In addition, residual protein in the final product was confirmed to be below the detection level in 3 non-consecutive lots of high purity rebaudioside M (≥95% rebaudioside M) *via* the bicinchoninic acid (BCA) assay. The absence of residual DNA in the final product for these same lots was confirmed to below the detection limit *via* polymerase chain reaction (PCR).

[1] Compliant with the specifications set forth in the Food Chemicals Codex or equivalent international food or pharmacopeia standard (*e.g.*, JECFA, CODEX, United States Pharmacopeia, European Pharmacopoeia).

Absence of residues of commonly used pesticides in the final product was confirmed in Lot 202003051 and Lot 202008081 of the starting material (≥90% total steviol glycosides).

JECFA has concluded that steviol glycosides are thermally and hydrolytically stable for use in foods and acidic beverages under normal processing and storage conditions (JECFA, 2007). The stability study on high-purity Manus Bio rebaudioside M (≥95% rebaudioside M) is currently on-going; however, the 3-month results indicate that the total steviol glycoside and rebaudioside M contents are stable when kept in commercial packaging at 50°C.

## INTENDED FOOD USES AND ESTIMATED INTAKE

High-purity rebaudioside M (≥95% rebaudioside M) is intended for use as a general-purpose sweetener that will be added to various food and beverage products that are consistent with the current uses of other high-intensity sweeteners on the U.S. market. The estimated intakes of high purity rebaudioside M (≥95% rebaudioside M) were calculated using a post-market surveillance approach as described by Renwick (2008). The estimated intakes were calculated by adjusting the post-market surveillance data for other high- intensity sweeteners using the sweetness intensity of high-purity rebaudioside M (≥95% rebaudioside M) relative to sucrose (*i.e.,* approximately 250). The results are shown in Table 1. For non-diabetic adults, average and high-end intakes of high purity rebaudioside M (≥95% rebaudioside M) of up to 0.26 and 0.68 mg/kg body weight/day expressed as steviol equivalents, respectively, were calculated. For diabetic adults, average and high-end intakes were slightly higher at up to 0.28 and 0.90 mg/kg body weight/day. Average and high-end exposures to high purity rebaudioside M (≥95% rebaudioside M), expressed as steviol equivalents, in non-diabetic children were calculated to be up to 0.43 and 0.99 mg/kg body weight/day, respectively. Although average intakes of high-purity rebaudioside M (≥95% rebaudioside M), expressed as steviol equivalents were estimated to be higher at up to 0.67 mg/kg body weight/day in diabetic children compared to values for non-diabetic children, high-end values in diabetic children (0.91 mg/kg body weight/day) were lower than high-end values in non-diabetic children. The predicted intakes of high-purity rebaudioside M (≥95% rebaudioside M), expressed as steviol equivalents, are all below the current acceptable daily intake (ADI) defined by the JECFA for steviol glycosides (FAO, 2016) of 0 to 4 mg/kg body weight/day as steviol. Recently, JECFA re-assessed the dietary exposure to steviol glycosides using different intake models, including the approach described by Renwick (2008), and noted that the replacement estimates were highly conservative and that actual exposures to steviol glycosides, expressed as steviol equivalents, would range from 0.4 to 7.2 mg/kg body weight/day (FAO, 2016). JECFA made note that this method overestimates dietary exposure (FAO, 2016).

**Table 1** Estimated Consumption High-Purity Rebaudioside M (≥95% Rebaudioside M) Produced by Enzymatic Conversion of Steviol Glycosides Using the Intense Sweetener Intake Assessment Methodology described by Renwick (2008)

| Population Group | Intakes of Intense Sweeteners (expressed as sucrose equivalents) (mg/kg bw/day) | | Consumption Estimates | | | |
|---|---|---|---|---|---|---|
| | | | High-Purity Rebaudioside M (≥95% Rebaudioside M)[a] (mg/kg bw/day) | | High-Purity Rebaudioside M (≥95% Rebaudioside M)[a,b] (mg/kg bw/day) as Steviol | |
| | Average Consumer | High Consumer | Average Consumer | High Consumer | Average Consumer | High Consumer |
| Non-diabetic adults | 255 | 675 | 1.02 | 2.7 | 0.26 | 0.68 |
| Diabetic adults | 280 | 897 | 1.12 | 3.59 | 0.28 | 0.9 |
| Non-diabetic children | 425 | 990 | 1.7 | 3.96 | 0.43 | 0.99 |
| Diabetic children | 672 | 908 | 2.69 | 3.63 | 0.67 | 0.91 |

bw = body weight

[a] Approximately 250 times as sweet as sucrose.

[b] Calculated based on the molecular weights of steviol (318.45 g/mol) and rebaudioside M (1,291.3 g/mol) [steviol conversion factor of 0.25].

# INFORMATION TO ESTABLISH SAFETY

The GRAS Panel reviewed the available data supporting the safety of individual steviol glycosides to evaluate the safety of high-purity rebaudioside M (≥95% rebaudioside M). The available data included a discussion on the metabolic fate of steviol glycosides, a summary of the extensive conclusions on the safety of steviol glycosides by global scientific and regulatory authorities/bodies, including the U.S. FDA, and other data that was deemed pivotal in determining the safety of high-purity rebaudioside M (≥95% rebaudioside M) produced by Manus.

Steviol glycosides are not hydrolyzed in the upper gastrointestinal tract due to the presence of β-glycosidic bonds; the unchanged steviol glycosides enter the colon and are subject to microbial degradation by the gut microflora, resulting in the release of the aglycone steviol (Wingard *et al.*, 1980; Hutapea *et al.*, 1997; Gardana *et al.*, 2003; Koyama *et al.*, 2003a,b; Geuns *et al.*, 2003, 2007; Renwick and Tarka, 2008; Nikiforov *et al.*, 2013; Purkayastha *et al.*, 2016). Specifically, Purkayastha et al. (2016) conducted incubation studies with pooled human fecal homogenates collected from adult males and females using rebaudiosides A, B, C, D, E, F, M, steviolbioside and dulcoside A, and showed that all glycosides were converted to steviol over a 24–48 h incubation period. These studies demonstrated that the number and location of sugar units attached to the steviol backbone do not significantly affect the microbial hydrolysis. Likewise, this study demonstrated that steviol glycosides, irrespective of the type of sugar moiety (e.g., glucose, rhamnose, xylose) attached to the steviol backbone, were metabolized to steviol at generally similar hydrolysis rates. Incubation tests were also conducted in fecal homogenates collected from adult and pediatric populations with steviol glycoside from stevia leaf extracts and steviol glycosides produced by enzymatic conversion of Reb A to larger molecules by attaching glucose units via β- or α-glycosidic bonds. The steviol glycosides produced by extraction from stevia leaf or enzymatic conversion of stevia leaf extract were also reported to share a similar metabolic fate in the fecal homogenates from adults and children supporting a similar metabolic fate of steviol glycosides in all ages (Purkayastha 2020). Steviol glycosides are hydrolyzed sequentially, in which 1 sugar moiety is removed at a time, with the degradation rates dependent on the structural complexity of each steviol glycoside (Wingard *et al.*, 1980; Koyama *et al.*, 2003b). Despite the differences in chemical structure, however, the rate of hydrolysis of different steviol glycosides to steviol are relatively similar, especially during the first 24 hours of incubation in *in vitro* metabolic studies with human fecal homogenates (Purkayastha *et al.*, 2014, 2015, 2016). Following microbial degradation, the steviol metabolite is absorbed systemically into the portal vein and distributed to the

liver, spleen, adrenal glands, fat, and blood (Nakayama *et al.*, 1986; Sung, 2002 [unpublished]; Koyama *et al.*, 2003b; Wang *et al.*, 2004; Roberts and Renwick, 2008). Steviol is conjugated to glucuronic acid to form steviol glucuronide in the liver. The steviol glucuronide metabolite and any unconjugated steviol or unhydrolyzed fraction of the administered glycosides are excreted primarily in the urine, and, to a lesser extent, feces in humans (Wingard *et al.*, 1980; Nakayama *et al.*, 1986; Kraemer and Maurer, 1994; Sung, 2002 [unpublished]; Geuns and Pietta, 2004 [unpublished]; Simonetti *et al.*, 2004; Geuns *et al.*, 2006, 2007; Roberts and Renwick, 2008; Wheeler *et al.*, 2008). Thus, due to the shared metabolic fate of steviol glycosides, the safety database that has been established for individual steviol glycosides (*e.g.,* stevioside, rebaudioside A, rebaudioside D), can be extrapolated to support the safety of other purified steviol glycosides in general, regardless of the steviol glycoside distribution of the preparation, including high purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides.

The safety of steviol glycosides have been extensively reviewed by various scientific and regulatory authorities/bodies, such as JECFA, U.S. FDA, Food Standards Australia New Zealand (FSANZ), the European Commission's Scientific Committee on Food (SCF), the European Food Safety Authority (EFSA), and Health Canada (SCF, 1985, 1999; FSANZ, 2008; EFSA, 2010, 2015; Health Canada, 2012b; JECFA, 2006, 2017a,b). Based on safety data and information that were generally available in the published scientific literature, these scientific bodies and regulatory agencies have unanimously concluded that steviol glycosides is of no safety concern and have established an ADI of 0 to 4 mg/kg body weight, expressed as steviol equivalents, based on the results of a 2-year study in rats (Toyoda *et al.,* 1997). The no-observed-adverse-effect level (NOAEL) of 970 mg/kg body weight/day, equivalent to 383 mg/kg body weight/day as steviol, determined from the results of the study by Toyoda *et al.* (1997) became the basis for the established ADI following application of a safety factor of 100 (JECFA, 2009; FSANZ, 2008; EFSA, 2010; Health Canada, 2012b). Subsequent to these safety evaluations, the EFSA concluded that *"extending the current specifications to include [two additional steviol glycosides], rebaudiosides D and M, as alternatives to Reb A in the predominant components of steviol glycosides would not be of safety concern"*. (EFSA, 2015) EFSA, JECFA, FSANZ, and Health Canada recently expanded the definition of steviol glycosides to include all individual steviol glycosides present in the *S. rebaudiana* Bertoni leaf. (EFSA, 2020; FSANZ, 2017b; Health Canada, 2017; JECFA, 2017) The FAO JECFA Monographs 23 defines enzymatic conversion as a process in which steviol glycosides that have been extracted from the leaves of Stevia rebaudiana Bertoni undergo enzymatic conversion of major steviol glycosides to minor ones. Annex 3 JECFA (2019) monograph 23 defines Enzyme-modified steviol glycosides as a mixture of compounds containing a steviol backbone conjugated to any number or combination of the principal sugar moieties (glucose, rhamnose, xylose, fructose, arabinose, galactose and deoxyglucose) in any of the orientations occurring in the leaves of Stevia rebaudiana Bertoni. The product is obtained from the enzymatic treatment of purified steviol glycosides extracted from the leaves of Stevia rebaudiana Bertoni. The purified leaf extract is treated with enzymes produced by non-toxigenic nonpathogenic strains of Pichia pastoris and Escherichia coli that have been genetically modified with genes from multiple donor organisms to produce glucosyltransferase (EC 2.4.1.17) and sucrose synthase (EC 2.4.1.13). The resulting material is heated and filtered to denature and remove the enzymes. The raw product is concentrated using resin adsorption/desorption or solid/liquid filtration, followed by purification and preparation of the product of commerce using processes that may include decolonization, crystallization, and spray drying. This manufacturing technique maximizes the production of specific steviol glycosides that are not naturally present in high concentrations in the leaf extract, primarily rebaudioside M and rebaudioside D with minor amounts of other steviol glycosides. (87th JECFA (2019) and published in FAO Monographs 23 (2019)).

The U.S. FDA has reviewed the safety of over 50 different steviol glycoside preparations and have consistently raised no objections regarding the GRAS status of steviol glycosides for use as general-purpose sweeteners in

food and beverage products. Of note, the U.S. FDA did not raise any objections regarding GRN 667 and GRN 745, in relation towhich describes the GRAS status of rebaudioside M produced by an enzymatic bioconversion process for use as a general-purpose sweetener in foods (U.S. FDA, 2017, 2018). The rebaudioside M described in GRN 667 and 745 is similar to Manus Bio's high purity rebaudioside M (≥95% rebaudioside M) produced by enzymatic conversion of steviol glycosides. In the Manus Bio process the food ingredient is produced by conversion of stevia leaf extract using UDP-glucosyltransferase enzymes produced by E. coli K-12 similar to GRN 745.

A comprehensive search of the scientific literature was conducted through November 2020 to capture publications relevant to the safety of steviol glycosides that became available following the U.S. FDA review of GRN 882[2]. The search identified studies investigating the genotoxicity, antidiabetic, and immune effects of steviol glycosides. Upon review, the GRAS Panel noted that the results of these studies also support the safety conclusions on steviol glycosides as established by a number of scientific and regulatory authorities/bodies (*e.g.,* JECFA, FSANZ, U.S. FDA, EFSA, and Health Canada).

The parental strain, *E. coli* K-12, from which the production strains are derived, has an extensive history of use as a laboratory organism and is considered one of the most extensively characterized microorganisms (Bachmann, 1972; Jensen, 1993). *E. coli* K-12 has a long history of safe use in the food and pharmaceutical industries. For example, a genetically modified strain of *E. coli* K-12 producing chymosin was affirmed as GRAS by the U.S. FDA in 1990 (Flamm, 1991; Olempska-Beer *et al.*, 2006). *E. coli* also serves as a host for the production of enzymes currently used in a GRAS-approved process for the enzymatic conversion of steviol glycosides. (GRN745). Further, *E. coli* K-12 and its derivatives are unable to colonize the mammalian gastrointestinal tract, and do not produce toxins and are unable to persist in the soil and water (Bogosian *et al.*, 1996; U.S. EPA, 1997). The parental strain does not carry any introduced antibiotic resistance genes and the complete genome of this strain has been sequenced, confirming the absence of any toxigenic potential (Blattner *et al.*, 1997; Hayashi *et al.*, 2006). The identity of the final production strain was also confirmed by both Sanger sequencing of engineered regions and whole genome sequencing.

The scientific evidence reviewed by the GRAS Panel demonstrates that under the conditions of intended use, Manus Bio's high purity rebaudioside M (≥95% rebaudioside M) would not produce any adverse health effects.

[2] At the time of the GRAS Panel's evaluation, GRN 882 was the most recent GRAS notice reviewed by the U.S. FDA to receive a "no questions" letter.

## CONCLUSION

We, the members of the GRAS Panel, have, independently and collectively, critically evaluated the data and information summarized above and conclude that Manus Bio's high-purity rebaudioside M (≥95% rebaudioside M), meeting appropriate food-grade specifications and produced in accordance with current Good Manufacturing Practice (cGMP), is safe for use as a general-purpose sweetener in foods and beverages.

We further unanimously conclude that the proposed use of Manus Bio's high-purity rebaudioside M (≥95% rebaudioside M) meeting appropriate food-grade specifications, as presented in the supporting dossier and produced consistent with cGMP is Generally Recognized as Safe (GRAS) under its intended conditions of use as a general-purpose sweetener in food and beverages based on scientific procedures.

It is our opinion that other qualified experts would concur with these conclusions.

[redacted]

Ashley Roberts Ph.D.
President – AR Toxicology Inc.

8 December 2020
Date

[redacted]

Jose -Avalos, Ph.D.
Princeton University
Princeton, NJ.

12/03/2020
Date

[redacted]

Stanley M. Tarka, Jr., Ph.D.
Fellow of ATS
The Tarka Group Inc.
The Pennsylvania State University,
College of Medicine

07 December 2020
Date

# APPENDIX B: Manufacturing Process Details

The process starts by the stevia leaf containing glycosides being sterilized and then dissolved with the media in a seed preparation. The seed is grown for 12 hours at 36-38 C. Media is prepared in the main tank and the seed is transferred where the conversion takes place over 36 hours while feeding the glycoside solution. The solution is heated to 70-75C and pH adjusted to 2.5-3.5 for 2 hours. The next step is separation of the biomass through a disc stacked centrifuge. The clarified broth containing Rebaudioside M is captured after passing through a 0.2-1.0 micron filter while the biomass is disposed of and not reprocessed. The clarified broth has the pH increased to 5.5 and is cooled to 10C in a primary crystallization step. The material is then centrifuged yielding a wet cake or crude rebaudioside M. The crude wet cake is dissolved in water/ ethanol, pH increased with sodium carbonate to 10.5-11.5, passed through a carbon column followed by a 0.2 to 0.45 micron filter, and heated to 70C. In the next step the material is pH adjusted to 5.5, cooled down to 10C in a secondary crystallization process. Crystals of rebaudioside are collected through centrifugation, they are washed, vacuum dried at 90-110C for 6 hours. Once dry, the material is milled and packaged for commercial sale.

# APPENDIX C: Three nonconsecutive lot analysis

NUTRASWEET NATURAL

1762 Lovers Lane
Augusta GA
Ph.: (1) 706-503-5600

## Certificate of Analysis

| Specification Parameter | High-Purity Rebaudioside M (≥95% Rebaudioside M) | Manufacturing Lot No MAM060420A Result | Method of Analysis |
|---|---|---|---|
| *Physical and Chemical Parameters* | | | |
| Appearance | White to off-white powder | Pass | |
| Total steviol glycosides (anhydrous basis) | ≥95% | >95 | TN34236 [Monograph 23 (87th JECFA Meeting 2019)] |
| Rebaudioside M | ≥95% | 97.93 | TN34240 [Monograph 23 (87th JECFA Meeting 2019)] |
| Loss on drying | ≤6% | 4.2 | TN46040 (CRA E-46) |
| pH (1% solution) | 4.5 to 7.0 | Pass | TN60730 (AOAC 981.12) |
| Residual ethanol | ≤5,000 ppm | Not Detected | TN64080 (USP 32-NF 27) |
| Residual methanol | ≤200 ppm | Not Detected | TN64080 (USP 32-NF 27) |
| Total ash | ≤1% | <1% | TN09560 (AOAC 900.02) |
| Lead | ≤1 ppm | <1 ppm | TN44290 (AOAC 993.14) |
| Arsenic | ≤1 ppm | <1 ppm | TN44292 (AOAC 993.14) |
| Cadmium | ≤1 ppm | <1 ppm | TN44291 (AOAC 993.14) |
| Mercury | ≤1 ppm | <1 ppm | TN44293 (AOAC 993.14) |

*Microbial Parameters*

| Specification Parameter | High-Purity Rebaudioside M (≥95% Rebaudioside M) | Manufacturing Lot No Result | Method of Analysis |
|---|---|---|---|
| Total plate count | <1,000 CFU/g | 50 CFU/g | TN10547 (CRA Microbiological Methods V-A) |
| Mold | <100 CFU/g | <10 CFU/g | TN10960 (CRA Microbiological Methods I-A) |
| Yeast | <100 CFU/g | <10 CFU/g | TN47010 (CRA Microbiological Methods II-A-1) |
| Coliforms | <3 MPN/g | <3 MPN/g | TN97010 (CRA Microbiological Methods I-A) |
| *Escherichia coli* | Not detected | Not detected | TN10510 (CRA Microbiological Methods IV-B) |
| *Salmonella* | Negative/25 g | Negative | TN10512 (CRA Microbiological Methods IV-B) |

K. E. Furlong, VP Quality, 04 Nov 20

MANUSHIO

NUTRASWEET M NATURAL

1762 Lovers Lane
Augusta GA
Ph.: (1) 706-305-5820

# Certificate of Analysis

| Specification Parameter | High-Purity Rebaudioside M (≥95% Rebaudioside M) | Manufacturing Lot No MAM060520E Result | Method of Analysis |
|---|---|---|---|
| ***Physical and Chemical Parameters*** | | | |
| Appearance | White to off-white powder | Pass | |
| Total steviol glycosides (anhydrous basis) | ≥95% | >95 | TN34236 [Monograph 23 (87th JECFA Meeting 2019)] |
| Rebaudioside M | ≥95% | 97.01 | TN34240 [Monograph 23 (87th JECFA Meeting 2019)] |
| Loss on drying | ≤6% | 3.98 | TN46040 (CRA E-46) |
| pH (1% solution) | 4.5 to 7.0 | Pass | TN60730 (AOAC 981.12) |
| Residual ethanol | ≤5,000 ppm | Not Detected | TN64080 (USP 32-NF 27) |
| Residual methanol | ≤200 ppm | Not Detected | TN64080 (USP 32-NF 27) |
| Total ash | ≤1% | <1% | TN09560 (AOAC 900.02) |
| Lead | ≤1 ppm | <1 ppm | TN44290 (AOAC 993.14) |
| Arsenic | ≤1 ppm | <1 ppm | TN44292 (AOAC 993.14) |
| Cadmium | ≤1 ppm | <1 ppm | TN44291 (AOAC 993.14) |
| Mercury | ≤1 ppm | <1 ppm | TN44293 (AOAC 993.14) |

***Microbial Parameters***

| Specification Parameter | High-Purity Rebaudioside M (≥95% Rebaudioside M) | Manufacturing Lot No Result | Method of Analysis |
|---|---|---|---|
| Total plate count | <1,000 CFU/g | 70 CFU/g | TN10547 (CRA Microbiological Methods V-A) |
| Mold | <100 CFU/g | <10 CFU/g | TN10560 (CRA Microbiological Methods I-A) |
| Yeast | <100 CFU/g | <10 CFU/g | TN47010 (CRA Microbiological Methods I-A-1) |
| Coliforms | <3 MPN/g | <3 MPN/g | TN97010 (CRA Microbiological Methods I-A) |
| *Escherichia coli* | Not detected | Not detected | TN10510 (CRA Microbiological Methods IV-B) |
| *Salmonella* | Negative/25 g | Negative | TN10512 (CRA Microbiological Methods IV-B) |

K. E. Furlong, VP Quality, 04 Nov 20

MANUSBIO

NUTRASWEET NATURAL

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# Certificate of Analysis

| Specification Parameter | High-Purity Rebaudioside M (≥95% Rebaudioside M) | Manufacturing Lot No MAM200716J Result | Method of Analysis |
|---|---|---|---|
| ***Physical and Chemical Parameters*** | | | |
| Appearance | White to off-white powder | Pass | |
| Total steviol glycosides (anhydrous basis) | ≥95% | >95 | TN34236 (Monograph 23 (87th JECFA Meeting 2019)) |
| Rebaudioside M | ≥95% | 97.3 | TN34240 (Monograph 23 (87th JECFA Meeting 2019)) |
| Loss on drying | ≤6% | 1.74 | TN46040 (CRA E-46) |
| pH (1% solution) | 4.5 to 7.0 | Pass | TN60730 (AOAC 981.12) |
| Residual ethanol | ≤5,000 ppm | Not Detected | TN64080 (USP 32-NF 27) |
| Residual methanol | ≤200 ppm | Not Detected | TN64080 (USP 32-NF 27) |
| Total ash | ≤1% | <1% | TN09560 (AOAC 900.02) |
| Lead | ≤1 ppm | <1 ppm | TN44250 (AOAC 993.14) |
| Arsenic | ≤1 ppm | <1 ppm | TN44252 (AOAC 993.14) |
| Cadmium | ≤1 ppm | <1 ppm | TN44251 (AOAC 993.14) |
| Mercury | ≤1 ppm | <1 ppm | TN44253 (AOAC 993.14) |

***Microbial Parameters***

| Specification Parameter | High-Purity Rebaudioside M (≥95% Rebaudioside M) | Manufacturing Lot No Result | Method of Analysis |
|---|---|---|---|
| Total plate count | <1,000 CFU/g | 500 CFU/g | TN10547 (CRA Microbiological Methods V-A) |
| Mold | <100 CFU/g | <10 CFU/g | TN10560 (CRA Microbiological Methods I-A) |
| Yeast | <100 CFU/g | <10 CFU/g | TN47010 (CRA Microbiological Methods II-A-1) |
| Coliforms | <3 MPN/g | <3 MPN/g | TN97010 (CRA Microbiological Methods I-A) |
| *Escherichia coli* | Not detected | Not detected | TN10510 (CRA Microbiological Methods IV-B) |
| *Salmonella* | Negative/25 g | Negative | TN10512 (CRA Microbiological Methods IV-B) |

[redacted]

K. E. Furlong, VP Quality, 4 Nov 20

MANUSBIO

# APPENDIX D: Residual Protein analysis

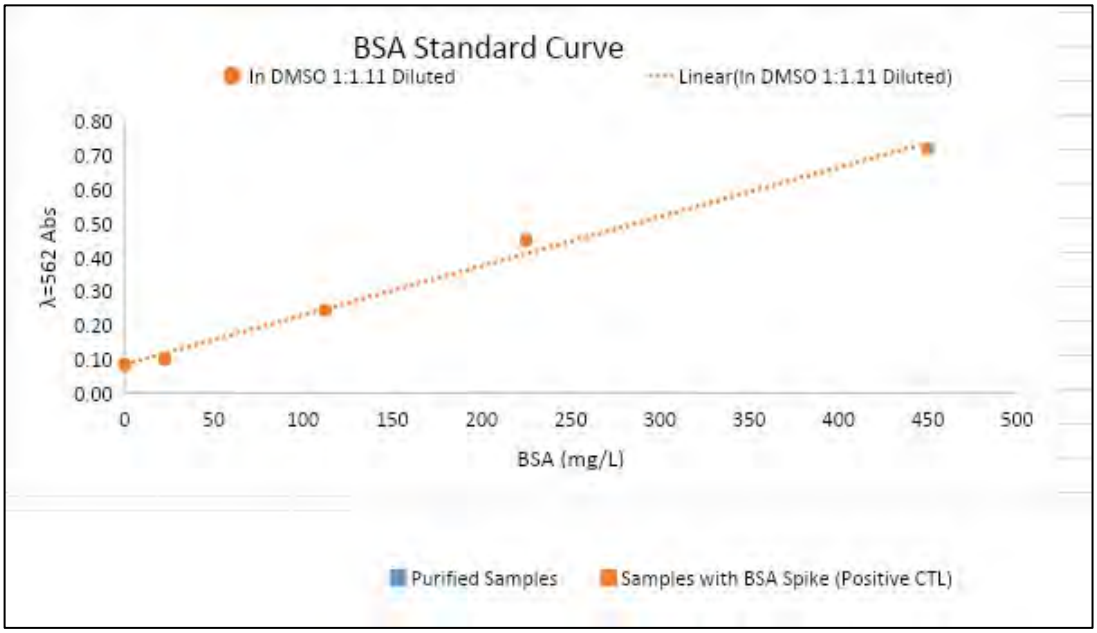
| BCA Assay Protocol: | https://www.thermofisher.com/document-connect/document-connect.html?url=https%3A%2F%2Fassets.thermofi |
|---|---|

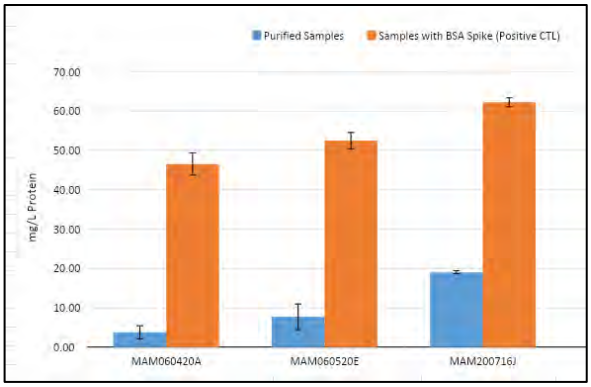
| | | | | Standard Curve |
|---|---|---|---|---|
| Standard Concentrations (mg/L): | 1800 | 1350 | 900 | 675 |
| Response (Abs λ 562): | 1.31 | 1.60 | 1.41 | 1.05 |

S-Assets%2FLSG%2Fmanuals%2FMAN0011430_Pierce_BCA_Protein_Asy_UG.pdf&title=VXNlciBHdWlkZTogUGllcmNlIEJDQSBQcm90ZWluIEFzc2F5IEtpdA==

| 450 | 225 | 113 | 23 | 0 |
|---|---|---|---|---|
| 0.72 | 0.45 | 0.24 | 0.10 | 0.08 |

| Sample Name | Raw (Abs λ 562) | Fit Concentration (mg/L) | Average (mg/L) | Standard Deviation (mg/L) | CTL Difference (mg/L) |
|---|---|---|---|---|---|
| MAM060420A | 0.09 | 4.93 | 3.73 | 1.70 | |
| MAM060420A | 0.09 | 2.53 | | | |
| MAM060520E | 0.09 | 5.40 | 7.70 | 3.25 | |
| MAM060520E | 0.10 | 10.00 | | | |
| MAM200716J | 0.11 | 19.27 | 19.00 | 0.38 | |
| MAM200716J | 0.11 | 18.73 | | | |
| MAM060420A_40mg/L BSA | 0.15 | 44.53 | 46.53 | 2.83 | 42.80 |
| MAM060420A_40mg/L BSA | 0.16 | 48.53 | | | |
| MAM060520E_40mg/L BSA | 0.17 | 53.93 | 52.47 | 2.07 | 44.77 |
| MAM060520E_40mg/L BSA | 0.16 | 51.00 | | | |
| MAM200716J_40mg/L BSA | 0.18 | 63.00 | 62.20 | 1.13 | 43.20 |
| MAM200716J_40mg/L BSA | 0.18 | 61.40 | | | |

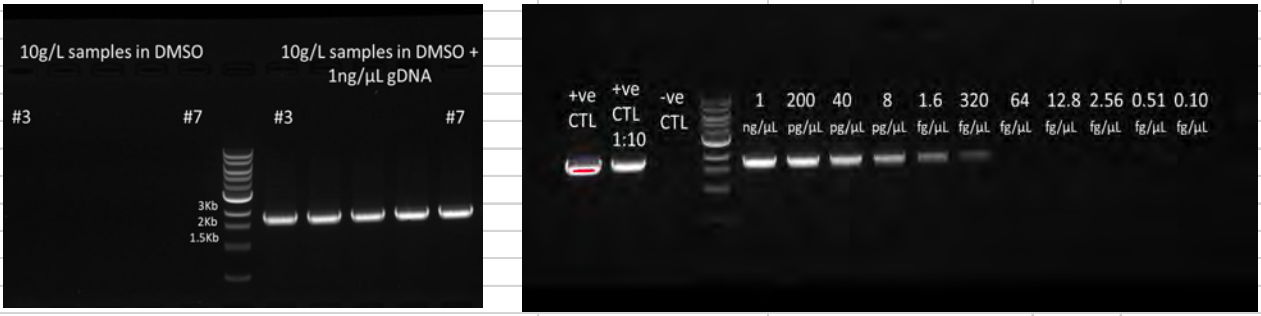





# APPENDIX E: Residual DNA Analysis

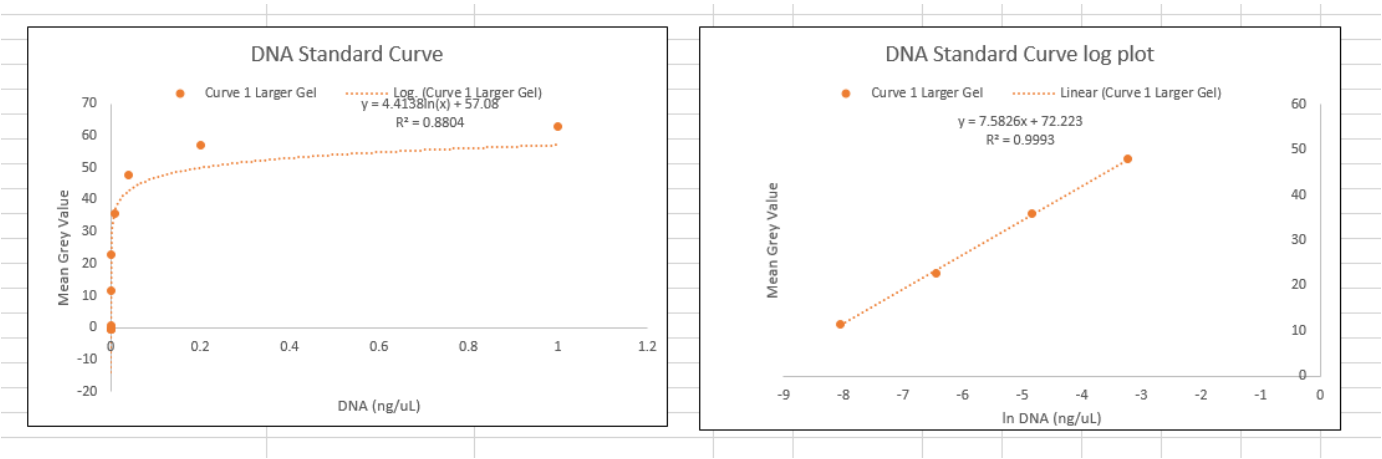
## GEL 1

ImageJ Analysis




Amplified bioAB locus with primers CGL687 and CGL688 which will result in a 1684 bp band from E. coli genomic DNA.

| ImageJ Quant | | | | | |
|---|---|---|---|---|---|
| Concentration (ng/µL) | Mean Grey Value Product | Mean Grey Value Background | Bg Sub | Ln Conc | Fit |
| 1 | 80.307 | 17.417 | 62.89 | 0 | 0.292046 |
| 0.2 | 74.422 | 17.55 | 56.872 | -1.609437912 | 0.132059 |
| 0.04 | 64.741 | 16.889 | 47.852 | -3.218875825 | 0.040193 |
| 0.008 | 51.938 | 16.088 | 35.85 | -4.828313737 | 0.008255 |
| 0.0016 | 37.525 | 14.701 | 22.824 | -6.43775165 | 0.001481 |
| 0.00032 | 25.574 | 14.059 | 11.515 | -8.047189562 | 0.000333 |
| 0.000064 | 13.152 | 13.381 | -0.229 | -9.656627475 | 7.08E-05 |
| 0.0000128 | 12.839 | 13.093 | -0.254 | -11.26606539 | 7.06E-05 |
| 0.00000256 | 12.159 | 12.519 | -0.36 | -12.8755033 | 6.96E-05 |
| 0.000000512 | 12.184 | 11.547 | 0.637 | -14.48494121 | 7.94E-05 |
| 1.024E-07 | 10.293 | 10.717 | -0.424 | -16.09437912 | 6.9E-05 |
| | | | | | |
| **Limit of detection** | | | | | |
| -9.524833171 | | | | | |
| 7.30159E-05 | | | | | |
| 73 fg/µL | | | | | |
| | | | | | |
| | | | | | |
| **Sample** | **Raw** | **Background** | **Bg Sub** | **Fit** | |
| 3.MAM200716J | 11.289 | 11.72 | -0.431 | 6.89814E-05 | |
| 3.MAM200716J + 1ng/µL DNA | 69.686 | 15.667 | 54.019 | | |




# Gel 2

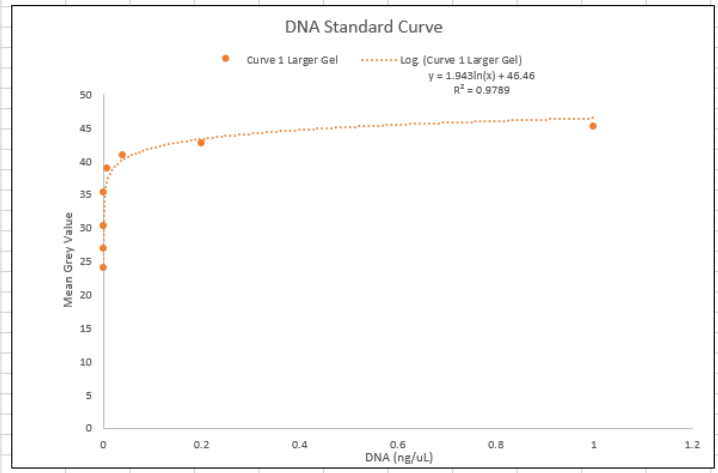
ImageJ Analysis

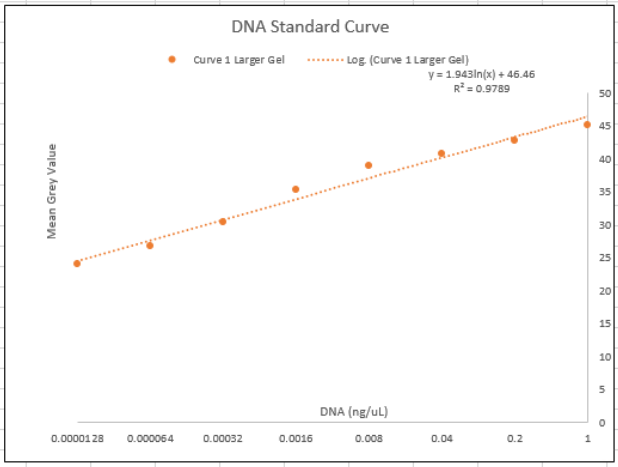
Amplified bioAB locus with primers CGL687 and CGL688 which will result in a 1684 bp band from E. coli genomic DNA.

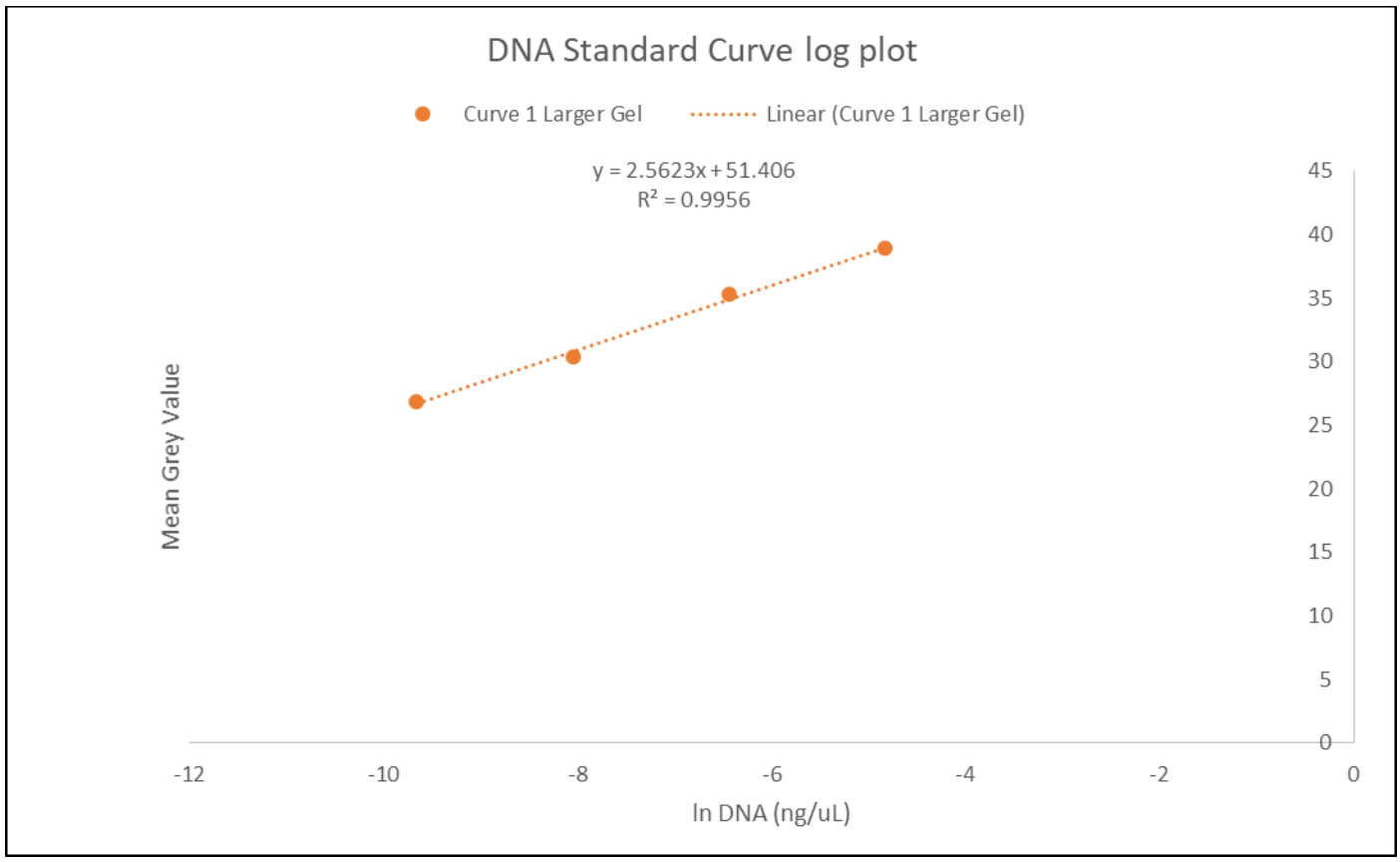
| ImageJ Quant<br>Concentration (ng/µL) | Mean Grey Value Product | Mean Grey Value Background | Bg Sub | Ln Conc |
|---|---|---|---|---|
| 1 | 67.148 | 21.967 | 45.181 | 0 |
| 0.2 | 65.117 | 22.383 | 42.734 | -1.609437912 |
| 0.04 | 62.636 | 21.839 | 40.797 | -3.218875825 |
| 0.008 | 60.004 | 21.07 | 38.934 | -4.828313737 |
| 0.0016 | 55.714 | 20.432 | 35.282 | -6.43775165 |
| 0.00032 | 49.768 | 19.425 | 30.343 | -8.047189562 |
| 0.000064 | 44.852 | 18.018 | 26.834 | -9.656627475 |
| 0.0000128 | 40.358 | 16.343 | 24.015 | -11.26606539 |

| Limit of detection (extrapolated) |
|---|
| -20.0624439 |
| 1.93638E-09 |
| 1.93 atto g/µL |

| Sample | Raw | Background | Bg Sub | Fit |
|---|---|---|---|---|
| 1.MAM060420A | 14.327 | 15.204 | -0.877 | 6.5041E-05 |
| 2.MAM060520E | 15.985 | 16.756 | -0.771 | 6.59566E-05 |
| 1.MAM060420A + 1ng/µL DNA | 67.35 | 21.35 | 46 | |
| 2.MAM060520E + 1ng/µL DNA | 67.912 | 22.374 | 45.538 | |






# Summary Table

DNA Analysis - Summary.

| Sample | Background Subtracted Mean Grey Value | Calculated Concentration (ng/µL) |
|---|---|---|
| 1.MAM060420A | -0.877 | below LOD |
| 2.MAM060520E | -0.771 | below LOD |
| 3.MAM200716J | -0.431 | below LOD |

*LOD = limit of detection

# APPENDIX F: Pesticide Residue

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**MANUS BIO INC**
**1762 LOVERS LANE**
**AUGUSTA GA 30903-1869**

**REPORT OF ANALYSIS**
For: (30263) MANUS BIO INC
[redacted]
Other (provide in comments or see FAQ)
Pesticide

| Analysis | Level Found As Received | Units | Reporting Limit | Method | Analyst-Date | Verified-Date |
|---|---|---|---|---|---|---|
| Sample ID: **IOT 202008081** Lab Number: **8814029** Date Sampled: **2020-10-01** | | | | | | |
| alpha-BHC (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| beta-BHC (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| gamma-BHC (Lindane) (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| delta-BHC (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Heptachlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Aldrin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Heptachlor epoxide (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| alpha Chlordane (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| gamma Chlordane (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| pp-DDE (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Endrin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Dieldrin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Endosulfan I (alpha) (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Endosulfan II (beta) (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| pp-DDD (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Endosulfan sulfate (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| pp-DDT (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Endrin ketone (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Methoxychlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |

The result(s) issued on this report only reflect the analysis of the sample(s) submitted.


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**AUGUSTA GA 30903-1869**

**REPORT OF ANALYSIS**
For: (30263) MANUS BIO INC
[redacted]
Other (provide in comments or see FAQ)
Pesticide

| Analysis | Level Found As Received | Units | Reporting Limit | Method | Analyst-Date | Verified-Date |
|---|---|---|---|---|---|---|
| **Sample ID: IOT 202008081** Lab Number: **8814029** (con't) | | | | | | |
| Dichlorvos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Mevinphos-1 (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Mevinphos-2 (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Demeton-S (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Ethoprop (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Naled (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Sulfotep (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Dimethoate (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Phorate (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Demeton-O (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Diazinon (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Disulfoton (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Methyl parathion (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Ronnel (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Malathion (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Fenthion (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Parathion ethyl (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| TEPP (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Trichloronat (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |

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REPORT OF ANALYSIS
For: (30263) MANUS BIO INC
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Other (provide in comments or see FAQ)
Pesticide

| Analysis | Level Found As Received | Units | Reporting Limit | Method | Analyst-Date | Verified-Date |
|---|---|---|---|---|---|---|
| **Sample ID: IOT 202008081** | Lab Number: **8814029** (con't) | | | | | |
| Merphos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Tetrachlorvinphos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Tokuthion (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Tributos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Fensulfothion (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Sulprofos (Bolstar) (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| EPN (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Azinphos-methyl (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Coumaphos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| EPTC (Eptam) (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Butylate (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Propachlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Desopropylatrazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Ethalfluralin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Desethyl atrazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Trifluralin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Benfluraline (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Prometon (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Simazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |



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Other (provide in comments or see FAQ)
Pesticide

| Analysis | Level Found As Received | Units | Reporting Limit | Method | Analyst-Date | Verified-Date |
|---|---|---|---|---|---|---|
| **Sample ID: IOT 202008081** | Lab Number: **8814029** (con't) | | | | | |
| Atrazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Propazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Terbufos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Fonofos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Triallate (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Dimethenamid (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Acetochlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Metribuzin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Alachlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Ametryn (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Prometryn (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Bromacil (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Metolachlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Chlorpyrifos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Cyanazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Pendimethalin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Isophenphos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Butachlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Oxadiazon (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |

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## REPORT OF ANALYSIS
For: (30263) MANUS BIO INC
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Other (provide in comments or see FAQ)
Pesticide

| Analysis | Level Found As Received | Units | Reporting Limit | Method | Analyst-Date | Verified-Date |
|---|---|---|---|---|---|---|
| **Sample ID: IOT 202008081** Lab Number: **8814029** (con't) | | | | | | |
| Hexazinone (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Sample ID: **Lot 202003051** Lab Number: **8814030** Date Sampled: **2020-10-01** | | | | | | |
| alpha-BHC (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| beta-BHC (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| gamma-BHC (Lindane) (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| delta-BHC (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Heptachlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Aldrin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Heptachlor epoxide (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| alpha Chlordane (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| gamma Chlordane (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| pp-DDE (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Endrin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Dieldrin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Endosulfan I (alpha) (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Endosulfan II (beta) (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| pp-DDD (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Endosulfan sulfate (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| pp-DDT (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |

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**MANUS BIO INC**
**MANUS BIO INC**
**1762 LOVERS LANE**
**AUGUSTA GA 30903-1869**

## REPORT OF ANALYSIS
For: (30263) MANUS BIO INC
[redacted]
Other (provide in comments or see FAQ)
Pesticide

| Analysis | Level Found As Received | Units | Reporting Limit | Method | Analyst-Date | Verified-Date |
|---|---|---|---|---|---|---|
| **Sample ID: Lot 202003051** Lab Number: **8814030** (con't) | | | | | | |
| Endrin ketone (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Methoxychlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Dichlorvos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Mevinphos-1 (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Mevinphos-2 (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Demeton-S (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Ethoprop (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Naled (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Sulfotep (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Dimethoate (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Phorate (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Demeton-O (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Diazinon (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Disulfoton (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Methyl parathion (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Ronnel (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Malathion (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Fenthion (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Parathion ethyl (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |

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## REPORT OF ANALYSIS

For: (30263) MANUS BIO INC
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Other (provide in comments or see FAQ)
Pesticide

| Analysis | Level Found As Received | Units | Reporting Limit | Method | Analyst-Date | Verified-Date |
|---|---|---|---|---|---|---|
| **Sample ID: Lot 202003051** Lab Number: **8814030** (con't) | | | | | | |
| TEPP (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Trichloronat (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Merphos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Tetrachlorvinphos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Tokuthion (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Tribufos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Fensulfothion (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Sulprofos (Bolstar) (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| EPN (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Azinphos-methyl (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Coumaphos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| EPTC (Eptam) (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Butylate (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Propachlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Deisopropylatrazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Ethalfluralin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Desethyl atrazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Trifluralin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Benfluraline (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |

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## REPORT OF ANALYSIS

For: (30263) MANUS BIO INC
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Other (provide in comments or see FAQ)
Pesticide

| Analysis | Level Found As Received | Units | Reporting Limit | Method | Analyst-Date | Verified-Date |
|---|---|---|---|---|---|---|
| **Sample ID: Lot 202003051** Lab Number: **8814030** (con't) | | | | | | |
| Prometon (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Simazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Atrazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Propazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Terbufos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Fonofos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Triallate (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Dimethenamid (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Acetochlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Metribuzin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Alachlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Ametryn (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Prometryn (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Bromacil (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Metolachlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Chlorpyrifos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Cyanazine (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Pendimethalin (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Isophenphos (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |

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## REPORT OF ANALYSIS

For: (30263) MANUS BIO INC
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Other (provide in comments or see FAQ)
Pesticide

| Analysis | Level Found As Received | Units | Reporting Limit | Method | Analyst-Date | Verified-Date |
|---|---|---|---|---|---|---|
| **Sample ID: Lot 202003051** | Lab Number: **8814030** (con't) | | | | | |
| Butachlor (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Oxadiazon (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |
| Hexazinone (QuEChERS) | n.d. | ppm | 0.01 | AOAC 2007.01 (mod) | brm3-2020/10/08 | akj2-2020/10/08 |

All results are reported on an AS RECEIVED basis., n.d. = not detected , ppm = parts per million, ppm = mg/kg

For questions please contact:
[redacted]
Kaley Parr
Account Manager
kparr@midwestlabs.com (402)829-9863

# Appendix G Literature Search

**Search Strategy**

**Databases:** BIOSIS® Toxicology, BIOSIS Previews®, CAB ABSTRACTS, Embase®, Lancet Titles, MEDLINE®, New England Journal of Medicine, NTIS: National Technical Information Service, Registry of Toxic Effects of Chemical Substances (RTECS®), ToxFile®, TOXLINE, TOXLINE

| Set# | Searched for | Results |
|---|---|---|
| S1 | (("steviol glycoside" or steviol or rebaudioside or stevioside or steviolbioside or rubusoside or dulcoside)) and (pd(>20190327) and ud(>20190327)) | 266° |

° Duplicates are removed from the search and from the result count.

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**Metabolic fate in adult and pediatric population of steviol glycosides produced from stevia leaf extract by different production technologies**
**Author:** Purkayastha, Sidd 1 ; Kwok, David 2 1 PureCircle Limited, 200 W Jackson Blvd, 8th Floor, Chicago, IL, 60606, United States sidd.purkayastha@purecircle.com 2 BRI Biopharmaceutical Research Inc., 101-8898 Heather St., Vancouver, BC V6P 3S8, Canada
**Publication info:** Regulatory Toxicology and Pharmacology 116 (Oct 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Structural dependence of antidiabetic effect of steviol glycosides and their metabolites on streptozotocin-induced diabetic mice**
**Author:** Myint, Khaing Zar 1 ; Chen, Jun-Ming 2 ; Zhou, Zhuo-Yu 1 ; Xia, Yong-Mei 1 ; Lin, Jianguo 3 ; Zhang, Jue 3 1 State Key Laboratory of Food Science and Technology, Jiangnan University, Wuxi, China, Key Laboratory of Synthetic and Biological Colloids (Ministry of Education), School of Chemical and Materials Engineering, Jiangnan University, Wuxi, China, China 2 State Key Laboratory of Food Science and Technology, Jiangnan University, Wuxi, China, China 3 Key Laboratory of Nuclear Medicine of Ministry of Health, Jiangsu Institute of Nuclear Medicine, Wuxi, China, China
**Publication info:** Journal of the science of food and agriculture 100.10 (Aug 2020): 3841-3849.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 3 of 266

**Rapid and economic determination of 13 steviol glycosides in market-available food, dietary supplements, and ingredients: single-laboratory validation of an HPLC method.**
**Author:** Liu, ZhiYan; Ren KangZi; Ye, Feng; Uong, T; Krepich, S; You, Hong
**Publication info:** Journal of Agricultural and Food Chemistry 68.37 (2020): 10142-10148.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

Document 4 of 266

**Physiological and morphological responses to abiotic stresses in two cultivars of *Stevia rebaudiana* (Bert.) Bertoni.**
**Author:** Debnath, M; Ashwath, N; Midmore, D J
**Publication info:** South African Journal of Botany 123 (2019): 124-132.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**A Validated RP-HPLC Method for Quantification of Steviol Glycoside: Rebaudioside A in Extracts of Stevia Rebaudiana Leaf**
**Author:** Kolate, Nikhil S. 1 ; Mishra, Himanshu 1 ; Kini, Suvarna G. 1 ; Raghavan, Govindarajan 2 ; Vyas, Tejas B. 2 1 Department of Pharmaceutical Chemistry, Manipal College of Pharmaceutical Sciences, MAHE, Manipal, Karnataka, 576104, India suvarna.gk@manipal.edu 2 Analytical Development Laboratory, Zydus Wellness Ltd, Ahmedabad, Gujarat, 380015, India
**Publication info:** Chromatographia (2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 6 of 266

**Factors affecting organogenesis of *Stevia rebaudiana* and *in vitro* accumulation of steviol glycosides.**
**Author:** Blinstrubienė, A; Burbulis, N; Juškevičiutė, N; Žūkienė, R
**Publication info:** Å½emdirbyste (Agriculture) 107.2 (2020): 171-178.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

Document 7 of 266

**Microwave-Assisted Subcritical Water Extraction of Steviol Glycosides from Stevia rebaudiana Leaves**
**Author:** Yang, Zheng 1 ; Uhler, Brandon 1 ; Lipkie, Tristan 1 1 Cargill Inc., 14800 28th Ave N, Minneapolis, MN, 55447, United States zheng_yang@cargill.com
**Publication info:** Natural Product Communications 14.6 (2019).
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 8 of 266

**Enzymatic synthesis and characterization of a novel α-1->6-glucosyl rebaudioside C derivative sweetener.**
**Author:** Yang, Zheng; Uhler, B; Zheng, Ted; Adams, K M
**Publication info:** Biomolecules 9.1 (2019): 27-27.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Stevia Rebaudiana Bertoni, a source of high-potency natural sweetener-biochemical and genetic characterization.**
**Author:** Dyduch-Siemińska, M; Najda, A; Gawroński, J; Balant, S; świca, K; Żaba, A
**Publication info:** Molecules 25.4 (2020).
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Interaction of Organic Anion Transporter 3-Mediated Uptake of Steviol Acyl Glucuronide, a Major Metabolite of Rebaudioside A, with Selected Drugs**
**Author:** Zhou, Dandan 1 ; Xu, Yunting 1 ; Wang, Yedong 1 ; Li, Jiajun 1 ; Gui, Chunshan 1 ; Zhang, Hongjian 1 1 College of Pharmaceutical Sciences, Soochow University, Suzhou, 215006, China
**Publication info:** Journal of agricultural and food chemistry 68.6 (Feb 12, 2020): 1579-1587.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Comparison of uridine diphosphate-glycosyltransferase UGT76G1 genes from some varieties of Stevia rebaudiana Bertoni**
**Author:** Abdelsalam, Nader R.; Botros, William A.; Khaled, Ahmed E.; Ghonema, Mohamed A.; Hussein, Shimaa G.; Ali, Hayssam M.; Elshikh, Mohamed S.
**Publication info:** Scientific Reports 9 (Jun 12, 2019): Article No.: 8559.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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Document 12 of 266

**Expression and characterization of a recombinant stevioside hydrolyzing beta-glycosidase from Enterococcus casseliflavus**
**Author:** Boonkaew, Bootsakorn; Udompaisarn, Somsiri; Arthan, Dumrongkiet; Somana, Jamorn
**Publication info:** Protein Expression and Purification 163 (Nov 2019): Article No.: 105449.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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Document 13 of 266

**Steviol glycosides profile in Stevia rebaudiana Bertoni hairy roots cultured under oxidative stress-inducing conditions**
**Author:** Libik-Konieczny, Marta 1 ; Michalec-Warzecha, Żaneta 1 ; Dziurka, Michał 1 ; Zastawny, Olga 2 ; Konieczny, Robert 2 ; Rozpądek, Piotr 3 ; Pistelli, Laura 4 1 The Franciszek Górski Institute of Plant Physiology, Polish Academy of Sciences, ul. Niezapominajek 21, 30-239, Krakow, Poland, Poland m.libik@ifr-pan.edu.pl 2 Department of Plant Cytology and Embryology, Jagiellonian University, Gronostajowa 9, 30-387, Krakow, Poland, Poland 3 Malopolska Centre of Biotechnology, Jagiellonian University, Gronostajowa 7A, 30-387, Krakow, Poland, Poland 4 Department of Agriculture, Food and Environment, University of Pisa, Via del Borghetto 80, I-56124, Pisa, Italy, Italy
**Publication info:** Applied microbiology and biotechnology 104.13 (Jul 2020): 5929-5941.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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Document 14 of 266

**Effect of gibberellic acid on production of biomass, polyphenolics and steviol glycosides in adventitious root cultures of *Stevia rebaudiana* (Bert.).**
**Author:** Ashfaq, Ahmad; Haider, Ali; Khan, Habiba; Begam, Almas; Khan, Sheraz; Ali, S S; Ahmad, Naveed; Fazal, Hina; Ali, Mohammad; Hano, C; Nisar, Ahmad; Abbasi, B H
**Publication info:** Plants 9.4 (2020).
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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Document 15 of 266

**EXTRACTION OF STEVIOL GLYCOSIDES FROM DRIED STEVIA REBAUDIANA BY PRESSURIZED HOT WATER EXTRACTION**
**Author:** Nemeth, A.; Janosi, S. Z.
**Publication info:** Acta Alimentaria 48.2 (Jun 2019): 241-252.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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**Bioconversion of Stevioside to Rebaudioside E Using Glycosyltransferase UGTSL2**
**Author:** Chen, Liangliang 1 ; Pan, Huayi 1 ; Cai, Ruxin 1 ; Li, Yan 1 ; Jia, Honghua 1 ; Chen, Kequan 1 ; Yan, Ming 1 ; Ouyang, Pingkai 1 1 College of Biotechnology and Pharmaceutical Engineering, Nanjing Tech University, Nanjing, 211800, China liyan@njtech.edu.cn
**Publication info:** Applied biochemistry and biotechnology (Oct 15, 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Total Synthesis and Structural Revision of Rebaudioside S, a Steviol Glycoside**
**Author:** Wen, Guo-En 1 ; Liu, Hui 1 ; Yin, Qi-Shuang 1 ; Liao, Jin-Xi 1 ; Tu, Yuan-Hong 1 ; Zhang, Qing-Ju 1 ; Sun, Jian-Song 1 1 National Research Centre for Carbohydrate Synthesis, Jiangxi Normal University, 99 Ziyang Avenue, Nanchang 330022, China, China
**Publication info:** The Journal of organic chemistry (Apr 23, 2020).
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**Databases:** MEDLINE® (1946 - current)

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**Extraction of steviol glycosides from *Stevia rebaudiana* (Bertoni) leaves by high-speed shear homogenization extraction.**
**Author:** Xu ShaoHe; Wang, GuanYu; Guo RuiLi; Zhong, Wei; Zhang, JinLi
**Publication info:** Journal of Food Processing and Preservation 43.12 (2019): e14250.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Deciphering performances of fifteen genotypes of *Stevia rebaudiana* in southwestern France through dry biomass and steviol glycoside evaluation.**
**Author:** Hastoy, C; Cosson, P; Cavaignac, S; Boutié, P; Waffo-Teguo, P; Rolin, D; Schurdi-Levraud, V
**Publication info:** Industrial Crops and Products 128 (2019): 607-619.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Photosynthetic performance and stevioside concentration are improved by the arbuscular mycorrhizal symbiosis in Stevia rebaudiana under different phosphate concentrations**
**Author:** Sarmiento-López, Luis G. 1 ; López-Meyer, Melina 2 ; Sepúlveda-Jiménez, Gabriela 1 ; Cárdenas, Luis 3 ; Rodríguez-Monroy, Mario 1 1 Departamento de Biotecnología, Centro de Desarrollo de Productos Bióticos, Instituto Politécnico Nacional, Yautepec, Morelos, Mexico mrmonroy@ipn.mx 2 Departamento de Biotecnología Agrícola, Centro Interdisciplinario de Investigación para el Desarrollo Integral Regional Unidad Sinaloa, Instituto Politécnico Nacional, Guasave, Sinaloa, Mexico 3 Departamento de Biología Molecular de Plantas, Instituto de Biotecnología, Universidad Nacional Autónoma de México, Cuernavaca, Morelos, Mexico
**Publication info:** PeerJ 8 (Oct 19, 2020).
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**Databases:** Embase® (1947 - current)

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**An in-silico layer-by-layer adsorption study of the interaction between Rebaudioside A and the T1R2 human sweet taste receptor: modelling and biosensing perspectives**
**Author:** Arodola, Olayide A 1 ; Kanchi, Suvardhan 1 ; Hloma, Phathisanani 1 ; Bisetty, Krishna 1 ; Asiri, Abdullah M 2 ; Inamuddin 3 1 Department of Chemistry, Durban University of Technology, P.O Box 1334, Durban, 4000, South Africa, South Africa Olayide.arodola@gmail.com ; bisettyk@dut.ac.za 2 Chemistry Department, Faculty of Science, King Abdulaziz University, Jeddah, 21589, Saudi Arabia, Saudi Arabia 3 Chemistry Department, Faculty of Science, King Abdulaziz University, Jeddah, 21589, Saudi Arabia, Advanced Functional Materials Laboratory, Department of Applied Chemistry, Faculty of Engineering and Technology, Aligarh Muslim University, Aligarh, 202 002, India, India inamuddin@zhcet.ac.in
**Publication info:** Scientific reports 10.1 (Oct 27, 2020): 18391.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Increase in steviol glycosides production from *Stevia rebaudiana* Bertoni under organo-mineral fertilization.**
**Author:** Díaz-Gutiérrez, C; Hurtado, A; Ortíz, A; Poschenrieder, C; Arroyave, C; Peláez, C
**Publication info:** Industrial Crops and Products 147 (2020).
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Effects of *Septoglomus viscosum* inoculation on biomass yield and steviol glycoside concentration of some *Stevia rebaudiana* chemotypes.**
**Author:** Tedone, L; Ruta, C; Cillis, F de; Mastro, G de
**Publication info:** Scientia Horticulturae 262 (2020): 109026.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Iron nano modulated growth and biosynthesis of steviol glycosides in *Stevia rebaudiana*.**
**Author:** Khan, M A; Ali, Amir; Sher Mohammad; Ali, Huma; Khan, Tariq; Zia-Ur-Rehman Mashwani; Asif, Jan; Pervaiz Ahmad
**Publication info:** Plant Cell, Tissue and Organ Culture 143.1 (2020): 121-130.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Arbuscular mycorrhizal symbiosis and phosphorus supply induce changes in photosynthetic rate, sugar partitioning and steviol glycosides composition in stevia.**
**Author:** Tavarini, S; Martini, A; Guglielminetti, L; Scartazza, A; Avio, L; Angelini, L G
**Publication info:** Agrochimica 63.1 (2019): 85-102.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Determination of potential compounds of stevia leaves (Stevia rebaudiana Bertoni) against DPP4 as candidates for antidiabetic drugs**
**Author:** Junaedi, Effan Cahyati 1 ; Megantara, Sandra 2 ; Mustarichie, Resmi 2 1 Department of Pharmaceutical Analysis and Medicinal Chemistry, Faculty of Pharmacy, Universitas Padjadjaran, Indonesia, Department of Pharmaceutical Chemical Analysis, Faculty of Mathematics and Natural Science, Universitas Garut, Indonesia 2 Department of Pharmaceutical Analysis and Medicinal Chemistry, Faculty of Pharmacy, Universitas Padjadjaran, Indonesia
**Publication info:** Journal of Global Pharma Technology 12.6 (Jun 1, 2020): 327-334.
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**Databases:** Embase® (1947 - current)

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**Stevioside Has the Maximum Biological Activity among Natural Stevia Diterpenes**
**Author:** Ogorodnova, U.A. 1 ; Sapunova, A.S. 1 ; Timofeeva, O.A. 1 ; Mironov, V.F. 2 1 Kazan Federal University, Kazan, Russian Federation 2 Arbuzov Institute of Organic and Physical Chemistry, Kazan Scientific Center, Russian Academy of Sciences, Kazan, Tatarstan, Russian Federation
**Publication info:** Doklady biological sciences : proceedings of the Academy of Sciences of the USSR, Biological sciences sections 492.1 (May 1, 2020): 79-82.
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**Databases:** Embase® (1947 - current)

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**Mutations in the uridine diphosphate glucosyltransferase 76G1 gene result in different contents of the major steviol glycosides in Stevia rebaudiana**
**Author:** Zhang, Shao-Shan 1 ; Chen, Hong 1 ; Xiao, Jie-Yu 1 ; Liu, Qiong 1 ; Xiao, Ren-Feng 1 ; Wu, Wei 1 1 Agronomy College, Sichuan Agricultural University, Chengdu, 611130, China ewuwei@sicau.edu.cn
**Publication info:** Phytochemistry 162 (Jun 1, 2019): 141-147.
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**Databases:** Embase® (1947 - current)

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**Development of rebaudioside D polymorphs with improved solubility.**
**Author:** Urai, S; Kudo, S; Takiyama, H
**Publication info:** Food Science and Technology Research 26.1 (2020): 17-23.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Immunohistochemical evaluation of the influence of rebaudioside A on neurons containing acetylcholinesterase (AChE) in the rat's hippocampus and striatum.**
**Author:** Rycerz, K; Jaworska-Adamu, J
**Publication info:** Medycyna Weterynaryjna 75.10 (2019): 627-631.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Production of rebaudioside D from stevioside using a UGTSL2 Asn358Phe mutant in a multi-enzyme system**
**Author:** Chen, Liangliang 1 ; Cai, Ruxin 1 ; Weng, Jingyuan 1 ; Li, Yan 1 ; Jia, Honghua 1 ; Chen, Kequan 1 ; Yan, Ming 1 ; Ouyang, Pingkai 1 1 College of Biotechnology and Pharmaceutical Engineering, Nanjing Tech University, Nanjing, 211800, China liyan@njtech.edu.cn
**Publication info:** Microbial Biotechnology 13.4 (Jul 1, 2020): 974-983.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Effects of cytokinins, gibberellic acid 3, and gibberellic acid 4/7 on in vitro growth, morphological traits, and content of steviol glycosides in Stevia rebaudiana**
**Author:** Pazuki, Arman 1 ; Aflaki, Fatemeh 1 ; Yücesan, Buhara 2 ; Gürel, Songül 1 1 Department of Biology, Faculty of Arts and Sciences, Bolu Abant Izzet Baysal University, Bolu, Turkey, Turkey songul_gurel@yahoo.com 2 Faculty of Natural and Agricultural Sciences, Department of Seed Science and Technology, Bolu Abant Izzet Baysal University, Bolu, Turkey, Turkey
**Publication info:** Plant physiology and biochemistry : PPB 137 (Apr 2019): 154-161.
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**Databases:** MEDLINE® (1946 - current)

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**Co-expression of anti-miR319g and miRStv_11 lead to enhanced steviol glycosides content in Stevia rebaudiana**
**Author:** Saifi, Monica; Yogindran, Sneha; Nasrullah, Nazima; Nissar, Umara; Gul, Irum; Abdin, M. Z.
**Publication info:** BMC Plant Biology 19 (Jun 24, 2019): Article No.: 274.
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**Databases:** BIOSIS Previews® (1926 - current)

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**Optimization of microwave assisted enzymatic extraction of steviol glycosides and phenolic compounds from stevia leaf.**
**Author:** Görgüç, A; Gençdağ, E; Yılmaz, F M
**Publication info:** Acta Periodica Technologica 50 (2019): 69-76.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Consumer-based sensory characterization of steviol glycosides (Rebaudioside A, D, and M).**
**Author:** Tao Ran; Cho SunGeun
**Publication info:** Foods 9.8 (2020).
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Effect of steviol glycosides on human health with emphasis on type 2 diabetic biomarkers: a systematic review and meta-analysis of randomized controlled trials.**
**Author:** Anker, C C B; Rafiq, S; Jeppesen, P B
**Publication info:** Nutrients 11.9 (2019): 1965.
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**Databases:** CAB ABSTRACTS (1910 - current)

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***Agrobacterium rhizogenes*-mediated transformation enhances steviol glycosides production and growth in *Stevia rebaudiana* plantlets.**
**Author:** Sanchéz-Cordova, Á. de J.; Capataz-Tafur, J; Barrera-Figueroa, B E; López-Torres, A; Sanchez-Ocampo, P M; García-López, E; Huerta-Heredia, A A
**Publication info:** Sugar Tech 21.3 (2019): 398-406.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Molecular basis for branched steviol glucoside biosynthesis**
**Author:** Lee, Soon Goo 1 ; Salomon, Eitan 2 ; Yu, Oliver 3 ; Jez, Joseph M. 4 1 Department of Biology, Washington University in St. Louis, St. Louis, MO, 63130, United States, Department of Chemistry and Biochemistry, University of North Carolina Wilmington, Wilmington, NC, 28403, United States 2 Department of Biology, Washington University in St. Louis, St. Louis, MO, 63130, United States, National Center for Mariculture, Israel Oceanographic and Limnological Research, Eilat, 8811201, Israel 3 Conagen, Inc., Bedford, MA, 01730, United States 4 Department of Biology, Washington University in St. Louis, St. Louis, MO, 63130, United States jjez@wustl.edu
**Publication info:** Proceedings of the National Academy of Sciences of the United States of America 116.26 (2019): 13131-13136.
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**Databases:** Embase® (1947 - current)

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**Crop and Steviol Glycoside Improvement in Stevia by Breeding**
**Author:** Tavarini, S.; Passera, B.; Angelini, L. G.
**Publication info:** In Steviol Glycosides: Cultivation, Processing, Analysis and Applications in Food , 1-31. ROYAL SOC CHEMISTRY, (2019).
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**Databases:** BIOSIS Previews® (1926 - current)

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**Overexpression of SrUGT76 G1 in Stevia alters major steviol glycosides composition towards improved quality.**
**Author:** Kim, MiJung; Zheng JunShi; Liao MingHui; Jang InCheol
**Publication info:** Plant Biotechnology Journal 17.6 (2019): 1037-1047.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Safety of a proposed amendment of the specifications for steviol glycosides (E 960) as a food additive: to expand the list of steviol glycosides to all those identified in the leaves of *Stevia rebaudiana* bertoni.**
**Author:** Younes, M; Aquilina, G; Engel, K H; Fowler, P; Fernandez, M J F; Fürst, P; Gürtler, R; Gundert-Remy, U; Husøy, T; Manco, M; Mennes, W; Moldeus, P; Passamonti, S; Shah, R; Waalkens-Berendsen, I; Wölfle, D; Wright, M; Degen, G; Giarola, A; Rincon, A M; Castle, L
**Publication info:** EFSA Journal 18.4 (2020).
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Melatonin promotes seed germination under salinity and enhances the biosynthesis of steviol glycosides in Stevia rebaudiana Bertoni leaves**
**Author:** Simlat, Magdalena 1 ; Szewczyk, Agnieszka 2 ; Ptak, Agata 1 1 Department of Plant Breeding, Physiology and Seed Science, University of Agriculture in Krakow, Krakow, Poland, Poland 2 Department of Pharmaceutical Botany, Faculty of Pharmacy, Jagiellonian University Medical College, Krakow, Poland, Poland
**Publication info:** PloS one 15.3 (Mar 27, 2020): e0230755.
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**Databases:** MEDLINE® (1946 - current)

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**A comparative morphological and transcriptomic study on autotetraploid Stevia rebaudiana (bertoni) and its diploid**
**Author:** Xiang, Zeng-xu; Tang, Xing-li; Liu, Wei-hu; Song, Chang-nian
**Publication info:** Plant Physiology and Biochemistry (Paris) 143 (Oct 2019): 154-164.
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**Databases:** BIOSIS Previews® (1926 - current)

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**Salt stress-induced changes in in vitro cultured *Stevia rebaudiana* Bertoni: effect on metabolite contents, antioxidant capacity and expression of steviol glycosides-related biosynthetic genes.**
**Author:** Lucho, S R; Amaral, M. N. do; Auler, P A; Bianchi, V J; Ferrer, M Á; Calderón, A A; Braga, E J B
**Publication info:** Journal of Plant Growth Regulation 38.4 (2019): 1341-1353.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Fractionation of *Stevia rebaudiana* aqueous extracts via two-step ultrafiltration process: towards rebaudioside a extraction.**
**Author:** Díaz-Montes, E; Gutiérrez-Macías, P; Orozco-Álvarez, C; Castro-Muñoz, R
**Publication info:** Food and Bioproducts Processing 123 (2020): 111-122.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Sustainable micropropagation of selected *Stevia rebaudiana* Bertoni genotypes.**
**Author:** Kaplan, B; Duraklioglu, S; Turgut, K
**Publication info:** Acta Scientiarum Polonorum - Hortorum Cultus 18.6 (2019): 47-56.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**RQ3, A Natural Rebaudioside D Isomer, Was Obtained from Glucosylation of Rebaudioside A Catalyzed by the CGTase Toruzyme 3.0 L**
**Author:** Guo, Qingbin 1 ; Zhang, Tongtong 2 ; Wang, Nifei 3 ; Xia, Yongmei 2 ; Zhou, Zhuoyu 2 ; Wang, Jian-Rong 4 ; Mei, Xuefeng 4 1 State Key Laboratory of Food Science and Technology, Jiangnan University, Wuxi, Jiangsu, 214122, China, State Key Laboratory of Food Nutrition and Safety, Tianjin University of Science and Technology, Ministry of Education, Tianjin, 300457, China 2 State Key Laboratory of Food Science and Technology, Jiangnan University, Wuxi, Jiangsu, 214122, China, School of Chemical and Materials Engineering, Jiangnan University, Wuxi, Jiangsu, 214122, China 3 State Key Laboratory of Food Nutrition and Safety, Tianjin University of Science and Technology, Ministry of Education, Tianjin, 300457, China 4 Pharmaceutical Analytical & Solid-State Chemistry Research Center, Shanghai Institute of Materia Medical, Chinese Academy of Sciences, Shanghai, 201203, China
**Publication info:** Journal of agricultural and food chemistry 67.28 (Jul 17, 2019): 8020-8028.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Kinetics and thermodynamics of rebaudioside A adsorption on a strongly acidic cation exchange resin**
**Author:** Chen, Bin 1 ; He, Jiaxin 1 ; Xiao, Xia 1 ; Li, Rong 1 1 School of Chemical Engineering, Northwest University, Xi'an, P. R. China, P. R. China
**Publication info:** Journal of separation science (Jul 6, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Diversity-Oriented Library Synthesis from Steviol and Isosteviol-Derived Scaffolds**
**Author:** Holth, Trinh A D 1 ; Walters, Michael A. 1 ; Hutt, Oliver E. 1 ; Georg, Gunda I. 1 1 Department of Medicinal Chemistry and Institute for Therapeutics Discovery and Development, College of Pharmacy, University of Minnesota, 717 Delaware Street Southeast, Minneapolis, MN, 55414, United States
**Publication info:** ACS combinatorial science 22.3 (Mar 9, 2020): 150-155.
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**Databases:** Embase® (1947 - current)

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**Effect of silver nanoparticle treatment on the expression of key genes involved in glycosides biosynthetic pathway in *Stevia rebaudiana* B. plant.**
**Author:** Ramezani, M; Asghari, S; Gerami, M; Ramezani, F; Abdolmaleki, M K
**Publication info:** Sugar Tech 22.3 (2020): 518-527.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Elicitation directed growth and production of steviol glycosides in the adventitious roots of *Stevia rebaudiana* Bertoni.**
**Author:** Kazmi, A; Khan, M A; Mohammad, S; Ali, A; Kamil, A; Arif, M; Ali, H
**Publication info:** Industrial Crops and Products 139 (2019): 111530.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Characterization of a new hemihydrate rebaudioside B crystal having lower aqueous solubility**
**Author:** Dong, Jinping 1 ; Yang, Zheng 1 1 Cargill Inc., 14800 28th Ave N, Plymouth, MN, 55447, United States zheng_yang@cargill.com
**Publication info:** Food Chemistry 304 (Jan 30, 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Efficient Biocatalytic Preparation of Rebaudioside KA: Highly Selective Glycosylation Coupled with UDPG Regeneration**
**Author:** Zhang, Yunyun 1 ; Xu, Shaohua 1 ; Jin, Yue 1 ; Dai, Yan 1 ; Chen, Yijun 1 ; Wu, Xuri 1 1 State Key Laboratory of Natural Medicines and Laboratory of Chemical Biology, China Pharmaceutical University, Nanjing, 211198, China yjchen@cpu.edu.cn ; xuriwu@cpu.edu.cn
**Publication info:** Scientific reports 10.1 (Apr 10, 2020): 6230.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Stevia rebaudiana Bertoni responses to salt stress and chitosan elicitor**
**Author:** Gerami, Mahyar 1 ; Majidian, Parastoo 2 ; Ghorbanpour, Akram 3 ; Alipour, Zeinab 1 1 Department of Biology, Sana Institute of Higher Education, Sari, Iran, Iran 2 Crop and Horticultural Science Research Department, Mazandaran Agricultural and Natural Resources Research and Education Center, Agricultural Research, Education and Extension Organization (AREEO), Sari, Iran, Iran 3 3Department of Plant Biology, Kharazmi University, Tehran, Iran, Iran
**Publication info:** Physiology and molecular biology of plants : an international journal of functional plant biology 26.5 (May 2020): 965-974.
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**Databases:** MEDLINE® (1946 - current)

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**Stevia rebaudiana Bertoni bioactive effects: From in vivo to clinical trials towards future therapeutic approaches**
**Author:** Salehi, Bahare 1 ; López, Maria Dolores 2 ; Martínez-López, Sara 3 ; Victoriano, Montserrat 4 ; Sharifi-Rad, Javad 5 ; Martorell, Miquel 4 ; F Rodrigues, Célia 6 ; Martins, Natália 7 1 Student Research Committee, School of Medicine, Bam University of Medical Sciences, Bam, Iran, Iran 2 Department of Plant Production, Faculty of Agronomy, Universidad de Concepción, Chillán, Chile, Chile 3 Department of Pharmacy, Biotechnology, and Nutrition, School of Biomedical Sciences, European University of Madrid (UEM), Madrid, Spain, Spain 4 Department of Nutrition and Dietetics, Faculty of Pharmacy, University of Concepcion, Concepcion, Chile, Chile 5 Zabol Medicinal Plants Research Center, Zabol University of Medical Sciences, Zabol, Iran, Iran 6 LEPABE-Department of Chemical Engineering, Faculty of Engineering, University of Porto, Porto, Portugal, Portugal 7 Faculty of Medicine, University of Porto, Porto, Portugal, Institute for Research and Innovation in Health (i3S), University of Porto, Porto, Portugal, Portugal
**Publication info:** Phytotherapy research : PTR 33.11 (Nov 2019): 2904-2917.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Do Steviol Glycosides Provide Ecological Fitness to Stevia rebaudiana through Impact on Dietary Preference of Plant Pests and Herbivores?**
**Author:** Deguzman, Ria R. 1 ; Midmore, David J. 1 ; Walsh, Kerry B. 1 1 Central Queensland University, Rockhampton, QLD, 4702, Australia d.midmore@cqu.edu.au
**Publication info:** Journal of Natural Products 82.5 (May 24, 2019): 1200-1206.
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**Databases:** Embase® (1947 - current)

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**Stevioside inhibits unilateral ureteral obstruction-induced kidney fibrosis and upregulates renal PPARγ expression in mice**
**Author:** Shen, Wei 1 ; Fan, Ke 1 ; Zhao, Ying 1 ; Zhang, Junyan 1 ; Xie, Meilin 1 1 Department of Pharmacology, College of Pharmaceutical Sciences, Soochow University, Suzhou, China, China
**Publication info:** Journal of food biochemistry (Oct 12, 2020): e13520.
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**Databases:** MEDLINE® (1946 - current)

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**Method for increasing glycosylation of a composition comprising steviol glycosides**
**Author:** Anonymous
**Publication info:** Van Den Berg, Marco Alexander. Madern, Marcella Katharina. Winter, Remko Tsjibbe. US 10472661. 12 November 2019 (20191112). US.
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**Databases:** BIOSIS Previews® (1926 - current)

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**Enzymatic Synthesis of Glucosyl Rebaudioside A and its Characterization as a Sweetener**
**Author:** Lee, So-Hyeon 1 ; Ko, Jin-A 2 ; Kim, Hae-Soo 1 ; Jo, Min-Ho 1 ; Kim, Joong-Su 3 ; Kim, Doman 4 ; Cho, Jeong-Yong 1 ; Wee, Young-Jung 5 ; Kim, Young-Min 1 1 Dept. of Food Science & Technology, Chonnam National Univ., Gwangju, 61186, Republic of Korea, Republic of Korea 2 Radiation Breeding Research Center, Advanced Radiation Technology Inst., Korea Atomic Energy Research Inst., Jeongeup, Republic of Korea, Republic of Korea 3 Bio-industrial Process Research Center, Korea Research Inst. of Bioscience and Biotechnology, Jeongeup, 56212, Republic of Korea, Republic of Korea 4 Research Inst. of Food Industrialization, Inst. of Green Bio Science & Technology, Seoul National Univ., Pyeongchang, 25354, Korea, Korea 5 Dept. of Food Science and Technology, Yeungnam Univ., Gyeongsan, Gyeongbuk, 38541, Republic of Korea, Republic of Korea
**Publication info:** Journal of food science 84.11 (Nov 2019): 3186-3193.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**The SrWRKY71 transcription factor negatively regulates SrUGT76G1 expression in Stevia rebaudiana**
**Author:** Zhang, Ting 1 ; Xu, Xiaoyang 2 ; Sun, Yuming 1 ; Gu, Chunsun 1 ; Hou, Menglan 3 ; Guan, Yunxiao 4 ; Yuan, Haiyan 1 ; Yang, Yongheng 5 1 Institute of Botany, Jiangsu Province and the Chinese Academy of Sciences, Nanjing, 210014, China; The Jiangsu Provincial Platform for Conservation and Utilization of Agricultural Germplasm, China zhangting901014@163.com ; sunyuminggagw@163.com ; chunsungu@126.com ; yuanhaiyan416@163.com 2 Institute of Botany, Jiangsu Province and the Chinese Academy of Sciences, Nanjing, 210014, China; The Jiangsu Provincial Platform for Conservation and Utilization of Agricultural Germplasm, China. Electronic address: intergoole@126.com 3 Institute of Botany, Jiangsu Province and the Chinese Academy of Sciences, Nanjing, 210014, China; The Jiangsu Provincial Platform for Conservation and Utilization of Agricultural Germplasm, China. Electronic address: hml2016t@163.com 4 College of Horticulture, Nanjing Agricultural University, Nanjing, 210095, China 5 Institute of Botany, Jiangsu Province and the Chinese Academy of Sciences, Nanjing,

210014, China; The Jiangsu Provincial Platform for Conservation and Utilization of Agricultural Germplasm, China. Electronic address: yyh8576@126.com
**Publication info:** Plant physiology and biochemistry : PPB 148 (Mar 1, 2020): 26-34.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Establishment of proficient *in vitro* mass multiplication and regeneration system for enhanced production of stevioside and rebaudioside a in *Stevia rebaudiana*.**
**Author:** Tufail, M B; Mustafa, G; Joyia, F A; Mushtaq, Z; Ghazala; Khan, M S
**Publication info:** JAPS, Journal of Animal and Plant Sciences 29.3 (2019): 796-802.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Biotechnological production of natural calorie free steviol glycosides in stevia rebaudiana: An update on current scenario**
**Author:** Kazmi, Abeer 1 ; Khan, Mubarak Ali 1 ; Mohammad, Sher 2 ; Ali, Amir 2 ; Ali, Huma 1 1 Department of Biotechnology, Faculty of Chemical and Life Sciences, Abdul Wali Khan University Mardan (AWKUM), Mardan, 23390, Pakistan makhan@awkum.edu.pk 2 Biotechnology Lab. Agricultural Research Institute (ARI), Tarnab, Peshawar, Pakistan
**Publication info:** Current Biotechnology 8.2 (2019): 70-84.
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**Databases:** Embase® (1947 - current)

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**Evaluation of the behavior of phenolic compounds and steviol glycosides of sonicated strawberry juice sweetened with stevia (*Stevia rebaudiana* Bertoni).**
**Author:** Zlabur, J Š; Dobričevic´, N.; Brnčic´, M.; Barba, F J; Lorenzo, J M; Franco, D; Atanasov, A G; Voc´a, S.; Brnčic´, S. R.
**Publication info:** Molecules 24.7 (2019): 1202.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Impact of cultivation factors in vitro on the growth and the biosynthesis of steviol glycosides in *Stevia rebaudiana* cell cultures.**
**Author:** Bondarev, N; Reshetnyak, O; Bondareva, T; Il'in, M; Nosov, A
**Publication info:** Physiology and Molecular Biology of Plants 25.4 (2019): 1091-1096.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Stevioside protects against rhabdomyolysis-induced acute kidney injury through PPAR-γ agonism in rats**
**Author:** Kaur, Tajpreet 1 ; Singh, Damanpreet 2 ; Singh, Amrit P 1 ; Pathak, Devendra 3 ; Arora, Saroj 4 ; Singh, Brahmjot 1 ; Kaur, Sarabjit 1 ; Singh, Balbir 1 1 Department of Pharmaceutical Sciences, Guru Nanak Dev University, Amritsar, India, India 2 Pharmacology and Toxicology Laboratory, CSIR-Institute of Himalayan Bioresource Technology, Palampur, India, India 3 Department of Veterinary Anatomy, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, India, India 4 Department of Botanical and Environmental Sciences, Guru Nanak Dev University, Amritsar, India, India
**Publication info:** Drug development research (Jul 31, 2020).
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**Databases:** MEDLINE® (1946 - current)

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**Genetic diversity and population structure of the sweet leaf herb, Stevia rebaudiana B., cultivated and landraces germplasm assessed by EST-SSRs genotyping and steviol glycosides phenotyping**
**Author:** Cosson, Patrick; Hastoy, Cecile; Errazzu, Luis Ernesto; Budeguer, Carlos Jorge; Boutie, Philippe; Rolin, Dominique; Schurdi-Levraud, Valerie
**Publication info:** BMC Plant Biology 19.1 (Oct 21, 2019): Article No.: 436.
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**Databases:** BIOSIS Previews® (1926 - current)

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**Steviol Glycosides in Dentistry**
**Author:** Frentzen, M.; Besrukow, P.; Ackermann, A.; Pierog, S.; Schiermeyer, B.; Winter, J.; Woelwer-Rieck, U.; Kraus, D.
**Publication info:** In Steviol Glycosides: Cultivation, Processing, Analysis and Applications in Food , 162-184. ROYAL SOC CHEMISTRY, (2019).
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**Databases:** BIOSIS Previews® (1926 - current)

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**Low-dose stevia (Rebaudioside A) consumption perturbs gut microbiota and the mesolimbic dopamine reward system**
**Author:** Nettleton, Jodi E. 1 ; Klancic, Teja 1 ; Schick, Alana 2 ; Choo, Ashley C. 1 ; Shearer, Jane 3 ; Borgland, Stephanie L. 4 ; Chleilat, Faye 1 ; Mayengbam, Shyamchand 1 ; Reimer, Raylene A. 3 1 Faculty of Kinesiology, University of Calgary, 2500 University Drive NW, Calgary, AB, T2N 1N4, Canada jenettle@ucalgary.ca ; teja.klancic@ucalgary.ca ; acchoo@ucalgary.ca ; fatima.chleilat1@ucalgary.ca ; shyamchandsingh.maye@ucalgary.ca 2 International Microbiome Centre, Cumming School of Medicine, University of Calgary, 3300 Hospital Drive NW, Calgary, AB, T2N 4N1, Canada a.schick@ucalgary.ca 3 Faculty of Kinesiology, University of Calgary, 2500 University Drive NW, Calgary, AB, T2N 1N4, Canada, Department of Biochemistry and Molecular Biology, Cumming School of Medicine, University of Calgary, 3300 Hospital Drive NW, Calgary, AB, T2N 4N1, Canada jshearer@ucalgary.ca 4 Hotchkiss Brain Institute, University of Calgary, 3300 Hospital Drive NW, Calgary, AB, T2N 4N1, Canada slborgla@ucalgary.ca
**Publication info:** Nutrients 11.6 (Jun 2019).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Effect of Growth Regulators on Stevia rebaudiana Bertoni Callus Genesis and Influence of Auxin and Proline to Steviol Glycosides, Phenols, Flavonoids Accumulation, and Antioxidant Activity In Vitro**
**Author:** Blinstrubienė, Aušra 1 ; Burbulis, Natalija 1 ; Juškevičiūtė, Neringa 1 ; Vaitkevičienė, Nijolė 1 ; Žūkienė, Rasa 1 1 Institute of Biology and Plant Biotechnology, Agriculture Academy, Vytautas Magnus University, Donelaicio str. 58, Kaunas, 44248, Lithuania
**Publication info:** Molecules (Basel, Switzerland) 25.12 (Jun 15, 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Study on sweetener selection in RTD tea beverages.**
**Author:** Fadlillah, H N; Ramadhan, H S; Hermanianto, J; Felanesa, L
**Publication info:** Jurnal Teknologi dan Industri Pangan 31.1 (2020): 1-8.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Effect of pruning in biomass production and steviol glycosides contents of Stevia rebaudiana Bertoni var. Morita II**
**Author:** Gonzalez, Marielys; Daquinta, Marcos; Pina, Danilo; Portal, Nayansi; Mosqueda, Osbel; Andujar, Ivan; Gonzalez, Luzgrey; Gonzalez, Susett; Perez, Lianny; Lezcano, Yarianne; Concepcion, Oscar; Escalona, Maritza
**Publication info:** Biotecnologia Vegetal 19.3 (Jul 2019 - Sep 2019): 155-164.
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**Databases:** BIOSIS Previews® (1926 - current)

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**Comparative transcriptome analysis revealed gamma-irradiation mediated disruption of floral integrator gene(s) leading to prolonged vegetative phase in Stevia rebaudiana Bertoni**
**Author:** Singh, Gopal; Pal, Poonam; Masand, Mamta; Seth, Romit; Kumar, Ashok; Singh, Sanatsujat; Sharma, Ram Kumar
**Publication info:** Plant Physiology and Biochemistry (Paris) 148 (Mar 2020): 90-102.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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**Effect of nutrient solutions and different planting bed on some growth characteristics of *Stevia rebaudiana* in inoculum conditions with mycorrhizal fungus.**
**Author:** Seyedmohammadi, N S; Barmaki, M; Davari, M; Majd, K H
**Publication info:** Applied Ecology and Environmental Research 17.3 (2019): 5641-5648.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Molecular docking studies and pharmacophore modeling of some insulin mimetic agents from herbal sources: A rational approach towards designing of orally active insulin mimetic agents**
**Author:** Pradhan, Joohee 1 ; Panchawat, Sunita 1 1 Department of Pharmaceutical Sciences, Mohanlal Sukhadia University, Udaipur, Rajasthan, 313001, India Juhipradhan123@gmail.com
**Publication info:** Current Traditional Medicine 6.2 (2020): 121-133.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Identification of GH1 gene family fgt members in Stevia rebaudiana and their expression when grown in darkness**
**Author:** Yang, Yongheng 1 ; Zhang, Ting 1 ; Xu, Xiaoyang 1 ; Sun, Yuming 1 ; Zhang, Yongxia 1 ; Hou, Menglan 1 ; Huang, Suzhen 1 ; Yuan, Haiyan 1 ; Tong, Haiying 1 1 Institute of Botany, Jiangsu Province and Chinese Academy of Sciences, Nanjing, 210014, China, The Jiangsu Provincial Platform for Conservation and Utilization of Agricultural Germplasm, Nanjing, 210014, China, China yuanhaiyan416@163.com ; njtonghy@163.com
**Publication info:** Molecular biology reports (Oct 24, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Reaction coupling separation for isosteviol production from stevioside catalyzed by acidic ion-exchange resin**
**Author:** Hu, Xueyi 1 ; Zhou, Zhuoyu 1 ; Zhang, Zongying 1 ; Wang, Xiaoxia 1 ; Sui, Xiaochen 1 ; Chen, Junming 1 ; Xia, Yongmei 1 ; Zhang, Jue 2 ; Lin, Jianguo 2 1 State Key Laboratory of Food Science and Technology, School of Chemical and Materials Engineering, Jiangnan University, 1800 Lihu Avenue, Wuxi, 214122, Jiangsu, China, Key Laboratory of Synthetic and Biological Colloids (Ministry of Education), School of Chemical and Materials Engineering, Jiangnan University, 1800 Lihu Avenue, Wuxi, 214122, Jiangsu, China, China ymxia@jiangnan.edu.cn 2 Key Laboratory of Nuclear Medicine of Ministry of Health, Jiangsu Institute of Nuclear Medicine, Wuxi, 214063, Jiangsu, China, China
**Publication info:** Bioprocess and biosystems engineering (Aug 28, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**A bioeconomy perspective for natural sweetener Stevia.**
**Author:** Ciriminna, R; Meneguzzo, F; Pecoraino, M; Pagliaro, M
**Publication info:** Biofuels, Bioproducts & Biorefining 13.3 (2019): 445-452.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Diterpenes and their derivatives as promising agents against dengue virus and dengue vectors: A literature-based review**
**Author:** Islam, Muhammad Torequl 1 ; Mubarak, Mohammad S. 2 1 Department for Management of Science and Technology Development, Ton Duc Thang University, Ho Chi Minh City, Viet Nam, Faculty of Pharmacy, Ton Duc Thang University, Ho Chi Minh City, Viet Nam muhammad.torequl.islam@tdtu.edu.vn 2 Department of Chemistry, The University of Jordan, Amman, Jordan
**Publication info:** Phytotherapy Research 34.4 (Apr 1, 2020): 674-684.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Response to the Letter to the Editor by S. Schiffman and H. Nagle: Revisiting the data and information that has collectively established the safety of low/no-calorie sweeteners, including sucralose**
**Author:** Roberts, Ashley; Lobach, Alexandra R.
**Publication info:** Food and Chemical Toxicology 132 (Oct 2019): Article No.: 110691.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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**Highly sweet compounds of plant origin: from ethnobotanical observations to wide utilization.: Special Issue: JEP 40 years.**
**Author:** Soejarto, D D; Addo, E M; Kinghorn, A D
**Publication info:** Journal of Ethnopharmacology 243 (2019): 112056.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Plant growth retardants (PGRs) affect growth and secondary metabolite biosynthesis in Stevia rebaudiana Bertoni under drought stress**
**Author:** Karimi, M.; Ahmadi, A.; Hashemi, J.; Abbasi, A.; Tavarini, S.; Pompeiano, A.; Guglielminetti, L.; Angelini, L. G.
**Publication info:** South African Journal of Botany 121 (Mar 2019): 394-401.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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**Effect of air drying on quality characteristics and mass transfer kinetics of osmotically dehydrated sea buckthorn by stevia**
**Author:** Lentzou, D. 1 ; Templalexis, C. 1 ; Xanthopoulos, G. 1 1 Department of Natural Resources Management and Agricultural Engineering, Faculty of School of Environment and Agricultural Engineering, Agricultural University of Athens, 75 Iera Odos Str., Athens, 11855, Greece xanthopoulos@aua.gr
**Publication info:** Food Research 4.4 (Aug 2020): 1140-1150.
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**Databases:** Embase® (1947 - current)

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**Bactericidal activity and structural studies of the steviol derivative 17-hydroxy-16-hydroxyiminobayeran-19-oic acid**
**Author:** Boreiko, Sheila 1 ; Machado, Agnes T.P. 1 ; Stiirmer, Júlio C. 2 ; Iulek, Jorge 1 ; Silva, Marcio 3 1 Department of Chemistry, State University of Ponta Grossa, Ponta Grossa, PR, Brazil 2 Department of Chemical Engineering, Federal Technological University of Paraná, Ponta Grossa, PR, Brazil 3 Department of Education, Federal Technological University of Paraná, Ponta Grossa, PR, Brazil marcios@utfpr.edu.br
**Publication info:** Current Bioactive Compounds 16.2 (2020): 96-101.
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**Databases:** Embase® (1947 - current)

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**Angiotensin-converting enzyme inhibiting ability of ethanol extracts, steviol glycosides and protein hydrolysates from stevia leaves**
**Author:** Wang, Limin 1 ; Wu, Wenbiao 1 College of Food Science, Southwest University, No. 2 Tian Shengqiao, Beibei, Chongqing, China
**Publication info:** Food & function 10.12 (Dec 11, 2019): 7967-7972.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Development of a new particulate 4-µm adsorbent layer for ultrathin-layer chromatography (miniaturized chromatogram).**
**Author:** Kirchert, S; Schulz, M; Oberle, M; Morlock, G E
**Publication info:** Journal of Chromatography, A 1587 (2019): 247-255.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Controlled elicitation increases steviol glycosides (SGs) content and gene expression-associated to biosynthesis of SGs in *Stevia rebaudiana* B. cv. Morita II.**
**Author:** Vazquez-Hernandez, C; Feregrino-Perez, A A; Perez-Ramirez, I; Ocampo-Velazquez, R V; Rico-García, E; Torres-Pacheco, I; Guevara-Gonzalez, R G
**Publication info:** Industrial Crops and Products 139 (2019): 111479.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Anti-inflammatory effect of stevioside abates Freund's complete adjuvant (FCA)-induced adjuvant arthritis in rats**
**Author:** Alavala, Sateesh 1 ; Nalban, Nasiruddin 1 ; Sangaraju, Rajendra 1 ; Kuncha, Madhusudana 1 ; Jerald, Mahesh Kumar 2 ; Kilari, Eswar Kumar 3 ; Sistla, Ramakrishna 1 1 Department of Applied Biology, CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad, 500 007, India sistla@iict.res.in 2 Animal House Facility, CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad, 500 007, India 3 Department of Pharmacology, A.U. College of Pharmaceutical Sciences, Andhra University, Visakhapatnam, 530 033, India
**Publication info:** Inflammopharmacology 28.6 (Dec 1, 2020): 1579-1597.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Stevia rebaudiana extract attenuate metabolic disorders in diabetic rats via modulation of glucose transport and antioxidant signaling pathways and aquaporin-2 expression in two extrahepatic tissues**
**Author:** Bayat, Elahe 1 ; Rahpeima, Zahra 2 ; Dastghaib, Sanaz 3 ; Gholizadeh, Fatemeh 1 ; Erfani, Mehran 1 ; Asadikaram, Gholamreza 2 ; Mokarram, Pooneh 4 1 Department of Biochemistry, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran, Iran 2 Department of Biochemistry, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran, Iran 3 Department of Biochemistry, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran, Endocrinology and Metabolism Research Center, Shiraz University of Medical Sciences, Shiraz, Iran, Iran 4 Department of Biochemistry, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran, Autophagy Research Center, Shiraz University of Medical Sciences, Shiraz, Iran, Iran
**Publication info:** Journal of food biochemistry 44.8 (Aug 2020): e13252.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Synthesis and characterization of stevioside having low degree polymerized glucosides using dextransucrase and dextranase**
**Author:** Son, Gyumin 1 ; Nguyen, Thi Thanh Hanh 2 ; Park, Byeongsu 1 ; Kwak, Sohyung 1 ; Jin, Juhui 1 ; Kim, Young-Min 3 ; Moon, Young-Hwan 4 ; Park, Sunghee 5 ; Kim, Seong-Bo 5 ; Kim, Doman 6 1 Graduate School of International Agricultural Technology, Seoul National University, Pyeongchang-gun, Gangwon-do, 25354, South Korea, South Korea 2 Institute of Food Industrialization, Institutes of Green Bio Science & Technology, Seoul National University, Pyeongchang-gun, Gangwon-do, 25354, South Korea, South Korea 3 Department of Food Science & Technology, Chonnam National University, Gwangju, 61186, South Korea, South Korea 4 Audubon Sugar Institute, Louisiana State University Agricultural Center, Gabriel, LA, 70776, USA, USA 5 CJ CheilJedang, Life Ingredient & Material Research Institute, Suwon, 16495, South Korea, South Korea 6 Graduate School of International Agricultural Technology, Seoul National University, Pyeongchang-gun, Gangwon-do, 25354, South Korea; Institute of Food Industrialization, Institutes of Green Bio Science & Technology, Seoul National University, Pyeongchang-gun, Gangwon-do, 25354, South Korea, South Korea kimdm@snu.ac.kr
**Publication info:** Enzyme and microbial technology 132 (Jan 2020): 109412.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Impact of Steviol Glycosides and Erythritol on the Human and Cebus apella Gut Microbiome**
**Author:** Mahalak, Karley K 1 ; Firrman, Jenni 1 ; Tomasula, Peggy M 1 ; Nuñez, Alberto 2 ; Lee, Jung-Jin 3 ; Bittinger, Kyle 3 ; Rinaldi, William 4 ; Liu, Lin Shu 1 1 United States Department of Agriculture, Dairy and Functional Foods Research Unit, Agricultural Research Service, Eastern Regional Research Center, 600E Mermaid Lane, Wyndmoor, Pennsylvania 19038, United States, United States 2 United States Department of Agriculture, Agricultural Research Service, Eastern Regional Research Center, 600E Mermaid Lane, Wyndmoor, Pennsylvania 19038, United States, United States 3 Division of Gastroenterology, Hepatology, and Nutrition, Children's Hospital of Philadelphia, 3401 Civic Center Boulevard, Philadelphia, Pennsylvania 19104, United States, United States 4 Alpha Genesis Inc., 95 Castle Hall Road, Yemassee, South Carolina 29945, United States, United States
**Publication info:** Journal of agricultural and food chemistry (Jan 7, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Stereoselective synthesis and antiproliferative activity of steviol-based diterpen aminodiols**
**Author:** Ozsvár, Dániel 1 ; Nagy, Viktória 2 ; Zupkó, István 3 ; Szakonyi, Zsolt 4 1 Institute of Pharmaceutical Chemistry, University of Szeged, Interdisciplinary Excellent Center, Szeged, H-6720, Hungary daniel.ozsvar@pharm.u-szeged.hu 2 Department of Pharmacodynamics and Biopharmacy, University of Szeged, Szeged, H-6720, Hungary nagy.viktoria@pharm.u-szeged.hu 3 Department of Pharmacodynamics and Biopharmacy, University of Szeged, Szeged, H-6720, Hungary, Interdisciplinary Centre of Natural Products, University of Szeged, Szeged, H-6720, Hungary zupko@pharm.u-szeged.hu 4 Institute of Pharmaceutical Chemistry, University of Szeged, Interdisciplinary Excellent Center, Szeged, H-6720, Hungary, Interdisciplinary Centre of Natural Products, University of Szeged, Szeged, H-6720, Hungary szakonyi@pharm.u-szeged.hu
**Publication info:** International Journal of Molecular Sciences 21.1 (Jan 1, 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Advances in enzymatic glycosylation of rubusoside**
**Author:** Wang, Yao 1 ; Chen, Yi-Jun 1 ; Wu, Xu-Ri 1 1 Laboratory of Chemical Biology, School of Life Science and Technology, China Pharmaceutical University, Nanjing, 211198, China wangy94@yeah.net ; yjchen@cpu.edu.cn ; xuriwu@cpu.edu.cn
**Publication info:** Chinese Journal of Pharmaceutical Biotechnology 26.4 (Aug 1, 2019): 337-342.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Stevia (*Stevia rebaudiana* Bertoni) responses to NaCl stress: growth, photosynthetic pigments, diterpene glycosides and ion content in root and shoot.**
**Author:** Shahverdi, M A; Omidi, H; Tabatabaei, S J
**Publication info:** Journal of the Saudi Society of Agricultural Sciences 18.4 (2019): 355-360.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Stevia as a natural sweetener: A review**
**Author:** Arumugam, Balakrishnan 1 ; Subramaniam, Arunambiga 1 ; Alagaraj, Praveena 1 1 Centre for Biological Sciences, Department of Biochemistry, K.S. Ramgasamy College of Arts and Science (Autonomous), Namakkal, Tiruchengode, Tamilnadu, 637215, India biosciencebala@gmail.com
**Publication info:** Cardiovascular and Hematological Agents in Medicinal Chemistry 18.2 (2020): 94-103.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Spray drying encapsulation of stevia extract with maltodextrin and evaluation of the physicochemical and functional properties of produced powders**
**Author:** Zorzenon, Maria Rosa T 1 ; Formigoni, Maysa 1 ; da Silva, Sandra B 2 ; Hodas, Fabiane 3 ; Piovan, Silvano 4 ; Ciotta, Simone R 1 ; Jansen, Cler A 5 ; Dacome, Antonio S 3 ; Pilau, Eduardo J 6 ; Mareze-Costa, Cecília E 4 ; Milani, Paula G 3 ; Costa, Silvio C 3 1 Postgraduate Program in Food Science, State University of Maringá (UEM), 5790, Colombo Avenue, Zip-code 87020-900, Maringá, Paraná, Brazil, Biochemistry Department, State University of Maringá (UEM), 5790, Colombo Avenue, Zip-code 87020-900, Maringá, Paraná, Brazil, Brazil 2 Postgraduate Program in Food Science, State University of Maringá (UEM), 5790, Colombo Avenue, Zip-code 87020-900, Maringá, Paraná, Brazil, Brazil 3 Biochemistry Department, State University of Maringá (UEM), 5790, Colombo Avenue, Zip-code 87020-900, Maringá, Paraná, Brazil, Brazil 4 Physiological Sciences Department, State University of Maringá (UEM), 5790, Colombo Avenue, Zip-code 87020-900, Maringá, Paraná, Brazil, Brazil 5 Laboratory of Biomolecules and Mass Spectrometry, Chemistry Department, State University of Maringá (UEM), 5790, Colombo Avenue, Zip-code 87020-900, Maringá, Paraná, Brazil, Postgraduate Program in Cell Biology, State University of Maringá (UEM), 5790, Colombo Avenue, Zip-code 87020-900, Maringá, Paraná, Brazil, Brazil 6 Laboratory of Biomolecules and Mass Spectrometry, Chemistry Department, State University of Maringá (UEM), 5790, Colombo Avenue, Zip-code 87020-900, Maringá, Paraná, Brazil, Brazil
**Publication info:** Journal of food science 85.10 (Oct 2020): 3590-3600.
ProQuest document link **Databases:** MEDLINE® (1946 - current)

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**The first total synthesis of rebaudioside R**
**Author:** Wen, Guo-En 1 ; Qiao, Zhi; Liu, Hui; Zeng, Zhi-Yong; Tu, Yuan-Hong; Xia, Jian-Hui; Zhang, Qing-Ju; Sun, Jian-Song 1 National Research Centre for Carbohydrate Synthesis, Jiangxi Normal University, Nanchang, 330022, China
**Publication info:** Organic & biomolecular chemistry 18.1 (Dec 18, 2019): 108-126.
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**Databases:** Embase® (1947 - current)

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**Engineered ZnO and CuO Nanoparticles Ameliorate Morphological and Biochemical Response in Tissue Culture Regenerants of Candyleaf (Stevia rebaudiana)**
**Author:** Ahmad, Muhammad Arslan 1 ; Javed, Rabia 2 ; Adeel, Muhammad 3 ; Rizwan, Muhammad 4 ; Ao, Qiang 2 ; Yang, Yuesuo 5 1 Key Lab of Eco-restoration of Regional Contaminated Environment (Shenyang University), Ministry of Education, Shenyang, 110044, China, Department of Tissue Engineering, China Medical University, Shenyang, 110122, China 2 Department of Tissue Engineering, China Medical University, Shenyang, 110122, China 3 Beijing Key Laboratory of Farmland Soil Pollution Prevention and Remediation, College of Resources and Environmental Sciences, China Agricultural University, Beijing, 100193, China 4 Microelement research center, College of Resources and Environment, Huazhong Agricultural University, Wuhan, 430070, China 5 Key Lab of Eco-restoration of Regional Contaminated Environment (Shenyang University), Ministry of Education, Shenyang, 110044, China, Key Lab of Groundwater and Environment (Jilin University), Ministry of Education, Changchun, 130021, China
**Publication info:** Molecules (Basel, Switzerland) 25.6 (Mar 17, 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Dietary stevioside supplementation increases feed intake by altering the hypothalamic transcriptome profile and gut microbiota in broiler chickens**
**Author:** Jiang, Jingle 1 ; Qi, Lina 1 ; Lv, Zengpeng 1 ; Wei, Quanwei 1 ; Shi, Fangxiong 1 1 College of Animal Science and Technology, Nanjing Agricultural University, Nanjing, China, China
**Publication info:** Journal of the science of food and agriculture (Sep 27, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**The effect of the elicitors on the steviol glycosides biosynthesis pathway in Stevia rebaudiana**
**Author:** Tavakoli, Hourieh 1 ; Tavakoli, Nasibeh 1 ; Moradi, Foad 2 1 Department of Agronomy and Plant Breading, Faculty of Agriculture and Natural Resource, University of Mohaghegh Ardabili, Agricultural Biotechnology Research Institute of Iran (ABRII), Karaj, Iran 2 Agricultural Biotechnology Research Institute of Iran (ABRII), Agricultural Research Education and Extension Organisation (AREEO), Karaj, Iran; and Corresponding author. Email: fmoradi@abrii.ac.ir
**Publication info:** Functional plant biology : FPB 46.9 (Aug 1, 2019): 787-795.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Antifungal Activity againstFusarium culmorumof Stevioside,Silybum marianumSeed Extracts, and Their Conjugate Complexes**
**Author:** Buzon-Duran, Laura; Martin-Gil, Jesus; del Carmen Ramos-Sanchez, Maria; Perez-Lebena, Eduardo; Luis Marcos-Robles, Jose; Fombellida-Villafruela, Angel; Martin-Ramos, Pablo
**Publication info:** Antibiotics-Basel 9.8 (Aug 2020): Article No.: 440.
ProQuest document link
**Databases:** BIOSIS® Toxicology (1969 - current)

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**Redesign and reconstruction of a steviol-biosynthetic pathway for enhanced production of steviol in Escherichia coli**
**Author:** Moon, Jun Ho 1 ; Lee, Kunjoong 1 ; Lee, Jun Ho 1 ; Lee, Pyung Cheon 1 1 Department of Molecular Science and Technology and Department of Applied Chemistry and Biological Engineering, Ajou University, Woncheon-dong, Yeongtong-gu, Suwon, 16499, South Korea, South Korea pclee@ajou.ac.kr
**Publication info:** Microbial cell factories 19.1 (Feb 3, 2020): 20.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Effect of dietary stevioside supplementation on growth performance, nutrient digestibility, serum parameters, and intestinal microflora in broilers**
**Author:** Wu, Xuezhuang 1 ; Yang, Peilong; Sifa, Dai; Wen, Zhiguo 1 College of Animal Science, Anhui Science and Technology University, Bengbu, 233100, China wuxuezhuang@126.com
**Publication info:** Food & function 10.5 (May 22, 2019): 2340-2346.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Volatile organic compounds of tobacco leaves versus waste (scrap, dust, and midrib): extraction and optimization**
**Author:** Banožić, Marija 1 ; Aladić, Krunoslav 1 ; Jerković, Igor 2 ; Jokić, Stela 1 1 Faculty of Food Technology Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia, Croatia 2 Faculty of Chemistry and Technology, University of Split, Split, Croatia, Croatia
**Publication info:** Journal of the science of food and agriculture (Sep 7, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Preparing molecularly imprinted nanoparticles of saponins via cooperative imprinting strategy**
**Author:** Zhang, Hao 1 ; Zhang, Yanan 2 ; Wang, Hailing 2 ; Wen, Han 2 ; Yan, Zhifeng 3 ; Huang, Ailan 3 ; Bie, Zijun 4 ; Chen, Yang 4 1 School of Pharmacy, Bengbu Medical University, Bengbu, P. R. China, Department of Pharmacy, First Affiliated Hospital of Bengbu Medical University, Bengbu, P. R. China, P. R. China 2 School of Pharmacy, Bengbu Medical University, Bengbu, P. R. China, P. R. China 3 Department of Chemistry, Bengbu Medical University, Bengbu, P. R. China, P. R. China 4 School of Pharmacy, Bengbu Medical University, Bengbu, P. R. China, Department of Chemistry, Bengbu Medical University, Bengbu, P. R. China, P. R. China
**Publication info:** Journal of separation science 43.11 (Jun 2020): 2162-2171.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Adjusting the chromatographic properties of poly(ionic liquid)-modified stationary phases by substitution on the imidazolium cation**
**Author:** Wang, Jie 1 ; Tang, Yuqi 1 ; Chu, Huiyuan 1 ; Shen, Jiwei 1 ; Wang, Chaozhan 1 ; Wei, Yinmao 1 1 Key Laboratory of Synthetic and Natural Functional Molecule Chemistry of Ministry of Education, College of Chemistry and Materials Science, Northwest University, Xi'an, P. R. China, P. R. China
**Publication info:** Journal of separation science (Apr 19, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Detecting kinsenoside from Anoectochilus roxburghii by HPLC-ELSD with dual columns of NH2 and AQ-C18**
**Author:** Wei, Mi 1 ; Chen, Xuemin 2 ; Yi, Liwen 3 ; Yuan, Yuanyuan 3 ; Zhang, Hua 3 ; Fu, Chunhua 3 ; Yu, Longjiang 3 1 Institute of Resource Biology and Biotechnology, Department of Biotechnology, College of Life Science and Technology, Huazhong University of Science and Technology, Wuhan, 430074, China, Key Laboratory for Quality Control of Characteristic Fruits and Vegetables of Hubei Province, College of Life Science and Technology, Hubei Engineering University, Xiaogan, 432000, China, China 2 Institute of Resource Biology and Biotechnology, Department of Biotechnology, College of Life Science and Technology, Huazhong University of Science and Technology, Wuhan, 430074, China, China 3 Institute of Resource Biology and Biotechnology, Department of Biotechnology, College of Life Science and Technology, Huazhong University of Science and Technology, Wuhan, 430074, China, Hubei Engineering Research Center for both Edible and Medicinal Resources, Wuhan, 430074, China, China
**Publication info:** Phytochemical analysis : PCA (Mar 26, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Stevioside, a diterpenoid glycoside, shows anti-inflammatory property against Dextran Sulphate Sodium-induced ulcerative colitis in mice**
**Author:** Alavala, Sateesh 1 ; Sangaraju, Rajendra 1 ; Nalban, Nasiruddin 1 ; Sahu, Bidya Dhar 1 ; Jerald, Mahesh Kumar 2 ; Kilari, Eswar Kumar 3 ; Sistla, Ramakrishna 1 1 Department of Applied Biology, CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad, 500 007, India sistla@iict.res.in 2 Animal House Facility, CSIR-Centre for Cellular and Molecular Biology(CCMB), Hyderabad, 500 007, India 3 Department of Pharmacology, A.U College of Pharmaceutical Sciences, Andhra University, Visakhapatnam, 530 033, India
**Publication info:** European Journal of Pharmacology 855 (Jul 15, 2019): 192-201.
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 108 of 266

**Evaluation of cardioprotection and bio-efficacy enhancement of stevioside and diltiazem in rats**
**Author:** Bhatt, Laxit 1 ; Amrutia, Jay 2 ; Chakraborty, Manodeep 2 ; Kamath, Jagadish 2 1 Department of Pharmacology and Toxicology, Zydus Research Centre, Ahmedabad, India, Department of Pharmacology, Shree Devi College of Pharmacy, Mangalore, India bkltox@gmail.com 2 Department of Pharmacology, Shree Devi College of Pharmacy, Mangalore, India jayamrutia@gmail.com ; Manodeep.chakrabrty@gmail.com ; sdcpharm@rediffmail.com
**Publication info:** Future Journal of Pharmaceutical Sciences 6.1 (Dec 1, 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Modeling and optimization of ultrasound-assisted green extraction and rapid HPTLC analysis of stevioside from *Stevia Rebaudiana*.**
**Author:** Rouhani, M
**Publication info:** Industrial Crops and Products 132 (2019): 226-235.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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Document 110 of 266

**Antioxidant and immunomodulatory activity induced by stevioside in liver damage: *in vivo*, *in vitro* and *in silico* assays.**
**Author:** Casas-Grajales, S; Ramos-Tovar, E; Chávez-Estrada, E; Alvarez-Suarez, D; Hernández-Aquino, E; Reyes-Gordillo, K; Cerda-García-Rojas, C M; Camacho, J; Tsutsumi, V; Lakshman, M R; Muriel, P
**Publication info:** Life Sciences 224 (2019): 187-196.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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Document 111 of 266

**Modeling of aerosol coating of sugar crystals based on study of physical and chemical properties of stevioside solutions.**
**Author:** Petrov, S M; Podgornova, N M; Petrov, K S; Ryazhskih, V I
**Publication info:** Journal of Food Engineering 255 (2019): 61-68.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**In vitro evaluation of the cariogenic potential of rebaudioside A compared to sucrose and xylitol**
**Author:** Ganter, Johanna 1 ; Hellwig, Elmar 2 ; Doerken, Sam 3 ; Al-Ahmad, Ali 2 1 Department of Operative Dentistry and Periodontology, Center for Dental Medicine, Faculty of Medicine, Medical Center-University of Freiburg, University of Freiburg, Freiburg, Germany, Department of Orthodontics, Center for Dental Medicine, Faculty of Medicine, Medical Center-University of Freiburg, University of Freiburg, Hugstetter Str. 55, Freiburg, 79106, Germany johanna.ganter@uniklinik-freiburg.de 2 Department of Operative Dentistry and Periodontology, Center for Dental Medicine, Faculty of Medicine, Medical Center-University of Freiburg, University of Freiburg, Freiburg, Germany 3 Institute of Medical Biometry and Statistics, Faculty of Medicine, Medical Center-University of Freiburg, University of Freiburg, Freiburg, Germany
**Publication info:** Clinical oral investigations 24.1 (Jan 1, 2020): 113-122.
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 113 of 266

**Antifungal activity against fusarium culmorum of stevioside, silybum marianum seed extracts, and their conjugate complexes**
**Author:** Buzón-Durán, Laura 1 ; Martín-Gil, Jesús 1 ; Ramos-Sánchez, María Del Carmen 2 ; Pérez-Lebeña, Eduardo 1 ; Marcos-Robles, José Luis 1 ; Fombellida-Villafruela, Ángel 1 ; Martín-Ramos, Pablo 3 1 ETSIIAA, Universidad de Valladolid, Avenida de Madrid 44, Palencia, 34004, Spain laura.buzon@uva.es ; mgil@iaf.uva.es ; eplebena@gmail.com ; jlmarcos@iaf.uva.es ; afv@pvs.uva.es 2 Servicio de Microbiología y Parasitología, Hospital Universitario Rio Hortega, SACYL, Calle Dulzaina, 2, Valladolid, 47012, Spain mramoss@saludcastillayleon.es 3 Instituto Universitario de Investigación en Ciencias Ambientales de Aragón (IUCA), EPS, Universidad de Zaragoza, Carretera de Cuarte, s/n, Huesca, 22071, Spain pmr@unizar.es
**Publication info:** Antibiotics 9.8 (Aug 2020): 1-14.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Development of Bacillus safensis-based liquid bioformulation to augment growth, stevioside content, and nutrient uptake in Stevia rebaudiana**
**Author:** Prakash, Jai 1 ; Arora, Naveen Kumar 2 1 Department of Environmental Microbiology (DEM), School for Environmental Sciences (SES), Babasaheb Bhimrao Ambedkar University (A Central University), Vidya Vihar ,Raebareli Road, Lucknow, Uttar Pradesh, 226025, India 2 Department of Environmental Science (DES), School for Environmental Sciences (SES), Babasaheb Bhimrao Ambedkar University (A Central University), Vidya Vihar ,Raebareli Road, Lucknow, Uttar Pradesh, 226025, India nkarora_net@rediffmail.com
**Publication info:** World journal of microbiology & biotechnology 36.1 (Dec 19, 2019): 8.
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 115 of 266

**HI-HPTLC-UV/Vis/FLD-HESI-HRMS and bioprofiling of steviol glycosides, steviol, and isosteviol in Stevia leaves and foods**
**Author:** Morlock, Gertrud E. 1 ; Heil, Julia 1 1 Institute of Nutritional Science, Chair of Food Science, TransMIT Center for Effect-Directed Analysis, Justus Liebig University Giessen, Heinrich-Buff-Ring 26-32, Giessen, 35392, Germany Gertrud.Morlock@uni-giessen.de
**Publication info:** Analytical and bioanalytical chemistry 412.24 (Sep 1, 2020): 6431-6448.
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 116 of 266

**Ceramide–rubusoside nanomicelles, a potential therapeutic approach to target cancers carrying p53 missense mutations**
**Author:** Khiste, Sachin K. 1 ; Liu, Zhijun 2 ; Roy, Kartik R. 1 ; Uddin, Mohammad B. 1 ; Hosain, Salman B. 1 ; Gu, Xin 3 ; Nazzal, Sami 4 ; Hill, Ronald A. 1 ; Liu, Yong-Yu 1 1 School of Basic Pharmaceutical and Toxicological Sciences, College of Pharmacy, University of Louisiana at Monroe, Monroe, LA, United States yliu@ulm.edu 2 School of Renewable Natural Resources, Louisiana State University Agricultural Center, Baton Rouge, LA, United States 3 Department of Pathology, Louisiana State University Health Sciences Center, Shreveport, LA, United States 4 Department of Pharmaceutical Sciences, Texas Tech University Health Science Center, Dallas, TX, United States
**Publication info:** Molecular Cancer Therapeutics 19.2 (Feb 2020): 564-574.
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 117 of 266

**The effects of the addition of starter cultures and stevioside on technological low-fat fermented sherbet ice-cream without sugar**
**Author:** Arseneva, Tamara Pavlovna 1 ; Evstigneeva, Tatiana Nikolaevna 1 ; Iakovchenko, Natalia Vladimirovna 1 ; Vitalevna, Lugova Margarita 1 ; Kurganova, Ekaterina Vladimirovna 1 1 Department of Applied Biotechnology, ITMO University. Saint Petersburg, Russian Federation
**Publication info:** Acta scientiarum polonorum. Technologia alimentaria 18.4 (Oct 1, 2019): 361-371.
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 118 of 266

**Rubusoside-assisted solubilization of poorly soluble $C_6$-Ceramide for a pilot pharmacokinetic study**
**Author:** Chen, Jianzhong 1 ; Khiste, Sachin K 2 ; Fu, Xiaomei 3 ; Roy, Kartik R. 2 ; Dong, Yixuan 1 ; Zhang, Jian 4 ; Liu, Mei 5 ; Liu, Yong-Yu 2 ; Liu, Zhijun 1 1 School of Renewable Natural Resources, LSU Agricultural Center, Louisiana State University, Baton Rouge, 70803, United States zliu@agcenter.lsu.edu 2 Basic Pharmaceutical Sciences, School of Pharmacy, University of Louisiana at Monroe, Monroe, LA, 71203, United States 3 School of Renewable Natural Resources, LSU Agricultural Center, Louisiana State University, Baton Rouge, 70803, United States, School of Pharmacy, Jiangxi University of Traditional Chinese Medicine, Nanchang, 330004, China 4 School of Renewable Natural Resources, LSU Agricultural Center, Louisiana State University, Baton Rouge, 70803, United States, School of Perfume and Aroma Technology, Shanghai Institute of Technology, Shanghai, 201418, China 5 School of Renewable Natural Resources, LSU Agricultural Center, Louisiana State University, Baton Rouge, 70803, United States, School of Pharmacy, Guangzhou University of Traditional Chinese Medicine, Guangzhou, 330004, China
**Publication info:** Prostaglandins and Other Lipid Mediators 146 (Feb 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 119 of 266

**Development of *Bacillus safensis*-based liquid bioformulation to augment growth, stevioside content, and nutrient uptake in *Stevia rebaudiana*.**
**Author:** Prakash, Jai; Arora, N K
**Publication info:** World Journal of Microbiology & Biotechnology 36.1 (2020).
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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Document 120 of 266

**Metabolomics analysis of the protective effect of rubusoside on palmitic acid-induced lipotoxicity in INS-1 cells using UPLC-Q/TOF MS**
**Author:** Zheng, Hua 1 ; Wu, Jinxia 2 ; Huang, Hong 3 ; Meng, Chunmei 1 ; Li, Weidong 1 ; Wei, Tianli 2 ; Su, Zhiheng 2 1 Life Sciences Institute, Guangxi Medical University, Nanning, 530021, China 2 Pharmaceutical College, Guangxi Medical University, Nanning, 530021, China suzhiheng@gxmu.edu.cn 3 First Affiliated Hospital, Guangxi Medical University, Nanning, 530021, China
**Publication info:** Molecular Omics 15.3 (2019): 222-232.
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 121 of 266

**Effect of methyl jasmonate and salicylic acid on in vitro growth, stevioside production, and oxidative defense system in *Stevia rebaudiana*.**
**Author:** Moharramnejad, S; Azam, A T; Panahandeh, J; Dehghanian, Z; Ashraf, Muhammad
**Publication info:** Sugar Tech 21.6 (2019): 1031-1038.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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Document 122 of 266

**Computational and pharmacological evaluation of stevioside derivatives for antinociceptive and anti-inflammatory potential**
**Author:** Ahmad, Sadaf 1 ; Khan, Arifullah 1 ; Hossain, Mohammad Akbar 2 ; Ullah, Asad 3 ; Faheem, Muhammad 1 ; Shahid, Muhammad 4 ; Ahmad, Shabir 3 1 Riphah Institute of Pharmaceutical Sciences, Riphah International University, Islamabad, Pakistan muhammad.faheem@riphah.edu.pk 2 Department of Pharmacology and Toxicology, College of Pharmacy, Umm Al-Qura University, Makkah al Mukarramah, Saudi Arabia 3 Department of Pharmacology and Toxicology, College of Medicine, Umm Al-Qura University, Makkah, Saudi Arabia 4 Department of Clinical Pharmacy, College of Pharmacy, Prince Sattam Bin Abdulaziz University, Alkharj, Saudi Arabia
**Publication info:** Tropical Journal of Pharmaceutical Research 19.8 (Aug 2020): 1677-1684.
ProQuest document link **Databases:** Embase® (1947 - current)

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Document 123 of 266

**Efficacy of stevioside sweetener on pH of plaque among young adults**
**Author:** Saira Siraj, E. 1 ; Pushpanjali, K. 2 ; Manoranjitha, B.S. 3 1 Department of Public Health Dentistry, Azeezia College of Dental Sciences and Research, Meeyannoor P.O, Kollam, Kerala, 691 537, India sairasirajsk@gmail.com 2 Department of Public Health Dentistry, Faculty of Dental Sciences, MSRUAS, Bengaluru, Karnataka, India 3 Public Health Dentistry, Moulaali, Hyderabad, Telangana, India
**Publication info:** Dental Research Journal 16.2 (Mar 2019 - Apr 2019): 104-109.
ProQuest document link **Databases:** Embase® (1947 - current)

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Document 124 of 266

**Nitrogen drives plant growth to the detriment of leaf sugar and steviol glycosides metabolisms in Stevia (Stevia rebaudiana Bertoni)**
**Author:** Sun, Yuming 1 ; Hou, Menglan 1 ; Mur, Luis A J 2 ; Yang, Yongheng 1 ; Zhang, Ting 1 ; Xu, Xiaoyang 1 ; Huang, Suzhen 1 ; Tong, Haiying 1 1 Institute of Botany, Jiangsu Province and Chinese Academy of Sciences, Nanjing, 210014, China sunyumingagw@163.com ; njtonghy@163.com 2 Institute of Biological, Environmental and Rural Sciences, Aberystwyth University, Aberystwyth, SY23 3DA, United Kingdom
**Publication info:** Plant physiology and biochemistry : PPB 141 (Aug 1, 2019): 240-249.
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 125 of 266

**Novel nanomicelles based on rebaudioside A: A potential nanoplatform for oral delivery of honokiol with enhanced oral bioavailability and antitumor activity**
**Author:** Wang, Jun 1 ; Yang, Hui 1 ; Li, Qiqi 1 ; Wu, Xianggen 1 ; Di, Guohu 2 ; Fan, Junting 3 ; Wei, Dongxu 4 ; Guo, Chuanlong 1 1 Department of Pharmacy, College of Chemical Engineering, Qingdao University of Science and Technology, Qingdao, 266042, China guochuanlong@qust.edu.cn 2 School of Basic Medicine, Qingdao University, Qingdao, 266071, China 3 Department of Pharmaceutical Analysis, School of Pharmacy, Nanjing Medical University, Nanjing, 211166, China 4 Department of Neonatal Intensive Care Unit, Qingdao Women and Children's Hospital, Qingdao, 266034, China
**Publication info:** International Journal of Pharmaceutics 590 (Nov 30, 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 126 of 266

**Novel self-nanomicellizing solid dispersion based on rebaudioside A: A potential nanoplatform for oral delivery of curcumin**
**Author:** Hou, Yuzhen 1 ; Wang, Hui 1 ; Zhang, Fan 1 ; Sun, Fengyuan 1 ; Xin, Meng 2 ; Li, Mengshuang 3 ; Li, Jun 4 ; Wu, Xianggen 1 1 Department of Pharmacy, College of Chemical Engineering, Qingdao University of Science and Technology, Qingdao, 266042, China wuxianggen@126.com 2 Department of Pharmacy, College of Chemical Engineering, Qingdao University of Science and Technology, Qingdao, 266042, China, Department of Ophthalmology, Yantai Affiliated Hospital of Binzhou Medical University, Yantai, 264100, China 3 Department of Pharmacy, College of Chemical Engineering, Qingdao University of Science and Technology, Qingdao, 266042, China, Pharmacy Intravenous Admixture Services, Qingdao Women and Children’s Hospital, Qingdao, 266034, China 4 Qingdao Eye Hospital, Shandong Eye Institute, Shandong Academy of Medical Sciences, Qingdao, 266071, China
**Publication info:** International Journal of Nanomedicine 14 (2019): 557-571.
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 127 of 266

**Computational and pharmacological evaluation of stevioside derivatives for antinociceptive and antiinflammatory potential.**
**Author:** Ahmad, Sadaf; Arif-Ullah Khan; Faheem, Muhammad; Iqbal, M S; Hossain, M A; Ullah, Asad; Ahmad, Shabir
**Publication info:** Tropical Journal of Pharmaceutical Research 19.8 (2020): 1677-1684.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

Document 128 of 266

**Inactivation of soybean Bowman-Birk inhibitor by stevioside: interaction studies and application to soymilk.**
**Author:** Liu, Chun; Luo LiJuan; Wu, Ying; Yang, XiaoQuan; Dong Jie; Luo FeiJun; Zou Yuan; Shen YingBin; Lin QinLu
**Publication info:** Journal of Agricultural and Food Chemistry 67.8 (2019): 2255-2264.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

Document 129 of 266

**Hydrophobic recognition allows the glycosyltransferase UGT76G1 to catalyze its substrate in two orientations**
**Author:** Yang, Ting 1 ; Zhang, Jinzhu 1 ; Ke, Dan 1 ; Yang, Wenxian 1 ; Tang, Minghai 2 ; Jiang, Jian 1 ; Cheng, Guo 3 ; Li, Jianshu 4 ; Cheng, Wei 2 ; Wei, Yuquan 2 ; Li, Qintong 5 ; Naismith, James H 6 ; Zhu, Xiaofeng 1 1 Key Laboratory of Bio-Resource and Eco-Environment of Ministry of Education, College of Life Sciences, Sichuan University; State Key Laboratory of Biotherapy and Cancer Center, West China Hospital, Sichuan University, 610064, Chengdu, China, China zhuxiaofeng@scu.edu.cn 2 State Key Laboratory of Biotherapy and Cancer Center, West China Hospital, Sichuan University, 610041, Chengdu, China, China 3 West China School of Public Health, Healthy Food Evaluation Research Center and State Key Laboratory of Biotherapy and Cancer Center, Sichuan University, 610041, Chengdu, China, China 4 Department of Biomedical Polymers and Artificial Organs, College of Polymer Science and Engineering and State Key Laboratory of Polymer Materials Engineering, Sichuan University, 610065, Chengdu, China, China 5 Department of Pediatrics, Obstetrics and Gynecology, West China Second University Hospital, Key Laboratory of Birth Defects and Related Diseases of Women and Children, Ministry of Education, Sichuan University, 610041, Chengdu, China, China liqintong@scu.edu.cn 6 State Key Laboratory of Biotherapy and Cancer Center, West China Hospital, Sichuan University, 610041, Chengdu, China, Division of Structural Biology, Wellcome Trust Centre of Human Genomics, Oxford, OX3 7BN, UK, Rosalind Franklin Institute, Harwell Campus, Didcot, OX11 0FA, UK, UK naismith@strubi.ox.ac.uk
**Publication info:** Nature communications 10.1 (Jul 19, 2019): 3214.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Separation and purification of hydroxytysol and oleuropein from Olea europaea L. (olive) leaves using macroporous resins and a novel solvent system**
**Author:** Liu, Baoqian 1 ; Liu, Jianfei 1 ; Huang, Dongdong 2 ; Pei, Dong 3 ; Di, Duolong 4 1 CAS Key Laboratory of Chemistry of Northwestern Plant Resources and Key Laboratory for Natural Medicine of Gansu Province, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou, P. R. China, University of Chinese Academy of Sciences, 19A Yuquan Road, Beijing, 100049, P. R. China, P. R. China 2 CAS Key Laboratory of Chemistry of Northwestern Plant Resources and Key Laboratory for Natural Medicine of Gansu Province, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou, P. R. China, College of Chemistry and Chemical Engineering, Northwest Normal University, Lanzhou, P. R. China, P. R. China 3 Centre of Resource Chemical and New Material, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Qingdao, P. R. China, P. R. China 4 CAS Key Laboratory of Chemistry of Northwestern Plant Resources and Key Laboratory for Natural Medicine of Gansu Province, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou, P. R. China, University of Chinese Academy of Sciences, 19A Yuquan Road, Beijing, 100049, P. R. China, College of Chemistry and Chemical Engineering, Northwest Normal University, Lanzhou, P. R. China, P. R. China
**Publication info:** Journal of separation science 43.13 (Jul 2020): 2619-2625.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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Document 131 of 266

**Effect of Rubusoside, a Natural Sucrose Substitute, on Streptococcus mutans Biofilm Cariogenic Potential and Virulence Gene Expression In Vitro**
**Author:** Guan, Chunru 1 ; Che, Faai 2 ; Zhou, Huoxiang 3 ; Li, Yiwei 2 ; Li, Yaru 2 ; Chu, Jinpu 2 1 Department of Stomatology, First Affiliated Hospital of Zhengzhou University, Zhengzhou, China, Academy of Medical Sciences, Zhengzhou University, Zhengzhou, China 2 Department of Stomatology, First Affiliated Hospital of Zhengzhou University, Zhengzhou, China 3 Laboratory of Microbiology and Immunology, Henan Institute of Medical and Pharmaceutical Sciences, Zhengzhou University, Zhengzhou, China, Marshall B. J. Medical Research Center, Fifth Affiliated Hospital of Zhengzhou University, Zhengzhou, China
**Publication info:** Applied and environmental microbiology 86.16 (Aug 3, 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 132 of 266

**Beneficial effects of stevioside on AGEs, blood glucose, lipid profile and renal status in streptozotocin-induced diabetic rats**
**Author:** Aswar, Urmila 1 ; Gogawale, Vinayak 2 ; Miniyar, Pankaj 2 ; Patil, Yugendra 3 1 Bharati Vidyapeeth (Deemed to be University), Poona College of Pharmacy, Erandwane, Pune, Maharashtra, India aswarurmila@gmail.com 2 STES's Sinhgad Institute of Pharmacy, Savitribai Phule Pune University, Narhe, Pune, Maharashtra, India 3 National Chemical Laboratory, Pune, Maharashtra, India
**Publication info:** Journal of Applied Biomedicine 17.3 (2019): 190-197.
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 133 of 266

**Enhanced Heterologous Production of Glycosyltransferase UGT76G1 by Co-Expression of Endogenous prpD and malK in Escherichia coli and Its Transglycosylation Application in Production of Rebaudioside**
**Author:** Shu, Wenju 1 ; Zheng, Hongchen 2 ; Fu, Xiaoping 3 ; Zhen, Jie 3 ; Tan, Ming 3 ; Xu, Jianyong 3 ; Zhao, Xingya 1 ; Yang, Shibin 1 ; Song, Hui 2 ; Ma, Yanhe 4 1 University of Chinese Academy of Sciences, Beijing 100049, China, Industrial Enzymes National Engineering Laboratory, Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences, Tianjin 300308, China, China 2 University of Chinese Academy of Sciences, Beijing 100049, China, Industrial Enzymes National Engineering Laboratory, Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences, Tianjin 300308, China, Tianjin Key Laboratory for Industrial Biological Systems and Bioprocessing Engineering, Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences, Tianjin 300308, China, China 3 Industrial Enzymes National Engineering Laboratory, Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences, Tianjin 300308, China, Tianjin Key Laboratory for Industrial Biological Systems and Bioprocessing Engineering, Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences, Tianjin 300308, China, China 4 Industrial Enzymes National Engineering Laboratory, Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences, Tianjin 300308, China, China
**Publication info:** International journal of molecular sciences 21.16 (Aug 11, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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Document 134 of 266

**1H-NMR Metabolomics Analysis of the Effect of Rubusoside on Serum Metabolites of Golden Hamsters on a High-Fat Diet**
**Author:** Li, Li 1 ; Jiang, Manjing 1 ; Li, Yaohua 1 ; Su, Jian 2 ; Qu, Xiaosheng 3 ; Fan, Lanlan 1 1 School of Pharmacy, Guangxi University of Chinese Medicine, Nanning 530001, China, China 2 Guangxi Scientific Research Center of Traditional Chinese Medicine, Guangxi University of Chinese Medicine, Nanning 530001, China, China 3 National Engineering Laboratory of Southwest Endangered Medicinal Resources Development, Guangxi Botanical Garden of Medicinal Plants, Nanning 530023, China, China
**Publication info:** Molecules (Basel, Switzerland) 25.6 (Mar 11, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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Document 135 of 266

**Enzymatic Monoglucosylation of Rubusoside and the Structure-Sweetness/Taste Relationship of Monoglucosyl Derivatives**
**Author:** Zhao, Ling 1 ; Wang, Yao 1 ; Li, Zhenlin 2 ; Wang, Xiaonan 3 ; Chen, Yijun 1 ; Wu, Xuri 3 1 Laboratory of Chemical Biology, College of Life Sciences and Technology, China Pharmaceutical University, Jiangsu Province 211198, 639 Longmian Road, Nanjing, China 2 Department of Pharmaceutical Analysis and Metabolomics, Jiangsu Province Academy of Traditional Chinese Medicine, 100 Shizi St. Hongshan Rd. Nanjing, Jiangsu Province 210028, China 3 Department of Biochemistry, College of Life Sciences and Technology, China Pharmaceutical University, Jiangsu Province 211198, 639 Longmian Road, Nanjing, China
**Publication info:** Journal of agricultural and food chemistry 68.32 (Aug 12, 2020): 8702-8709.
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 136 of 266

**Do steviol glycosides affect the oxidative and genotoxicity parameters in BALB/c mice?**
**Author:** Yılmaz, Şemsi Gül 1 ; Uçar, Aslı 1 ; Yılmaz, Serkan 2 1 Faculty of Health Sciences, Department of Nutrition and Dietetics, Ankara University, Ankara, Turkey, Turkey 2 Faculty of Health Sciences, Ankara University, Ankara, Turkey, Turkey
**Publication info:** Drug and chemical toxicology (Jan 21, 2020): 1-6.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 137 of 266

**Steviol glucuronide, a metabolite of steviol glycosides, potently stimulates insulin secretion from isolated mouse islets: Studies in vitro**
**Author:** Gu, Wenqian 1 ; Rebsdorf, Andreas 1 ; Anker, Camilla 1 ; Gregersen, Søren 2 ; Hermansen, Kjeld 3 ; Geuns, Jan M C 4 ; Jeppesen, Per Bendix 1 1 Department of Clinical Medicine Aarhus University Aarhus N Denmark 2 Steno Diabetes Center Aarhus Aarhus University Hospital Aarhus N Denmark, Department of Endocrinology and Internal Medicine Aarhus University Hospital Aarhus N Denmark 3 Department of Clinical Medicine Aarhus University Aarhus N Denmark, Department of Endocrinology and Internal Medicine Aarhus University Hospital Aarhus N Denmark 4 Laboratory of Functional Biology KU Leuven Leuven Belgium
**Publication info:** Endocrinology, diabetes & metabolism 2.4 (Sep 6, 2019): e00093.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 138 of 266

**Stevioside mediated chemosensitization studies and cytotoxicity assay on breast cancer cell lines MDA-MB-231 and SKBR3**
**Author:** Khare, Noopur 1 ; Chandra, Sheela 1 1 Department of Bioengineering, BIT Mesra, Ranchi, India, India
**Publication info:** Saudi journal of biological sciences 26.7 (Nov 2019): 1596-1601.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**ROLE OF MICROBIOME IN HEPATOPROTECTIVE EFFECT OF REBAUDIOSIDE FOR NONALCOHOLIC STEATOHEPATITIS**
**Author:** Xi, Dong; Bhattacharjee, Jashdeep; Salazar-Gonzalez, Rosa-Maria; Warren, Mikako; Merritt, Russell; Kohli, Rohit
**Publication info:** Gastroenterology, suppl. S1 156.6 (2019): S-1294.
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 140 of 266

**Rebaudioside affords hepatoprotection ameliorating sugar sweetened beverage- induced nonalcoholic steatohepatitis**
**Author:** Xi, Dong 1 ; Bhattacharjee, Jashdeep 1 ; Salazar-Gonzalez, Rosa-Maria 1 ; Park, Soyoung 2 ; Jang, Alice 2 ; Warren, Mikako 3 ; Merritt, Russell 1 ; Michail, Sonia 1 ; Bouret, Sebastien 2 ; Kohli, Rohit 1 1 Gastroenterology, Hepatology and Nutrition, 90027, Los Angeles, CA, USA rokohli@chla.usc.edu 2 Developmental Neuroscience Program & Diabetes and Obesity Program, Center for Endocrinology, Diabetes and Metabolism, VA, Richmond, 23298, United States 3 Pathology and Laboratory Medicine, Children's Hospital Los Angeles & University of Southern California Keck School of Medicine, Los Angeles, CA, 90027, USA
**Publication info:** Scientific reports 10.1 (Apr 21, 2020): 6689.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Elimination of bitter-off taste of stevioside through structure modification and computational interventions**
**Author:** Bhardwaj, Vijay 1 ; Singh, Rahul 1 ; Singh, Pooja 2 ; Purohit, Rituraj 3 ; Kumar, Sanjay 4 1 Structural Bioinformatics Lab, CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur, HP 176061, India; Biotechnology division, CSIR-IHBT, Palampur, HP 176061, India, India 2 Pharmacoinformatics unit, National Institute of Pharmaceutical Education and Research, Hajipur, Bihar 844102, India, India 3 Structural Bioinformatics Lab, CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur, HP 176061, India; Biotechnology division, CSIR-IHBT, Palampur, HP 176061, India; Academy of Scientific & Innovative Research (AcSIR), CSIR-IHBT Campus, Palampur, HP 176061, India, India rituraj@ihbt.res.in 4 Biotechnology division, CSIR-IHBT, Palampur, HP 176061, India, India
**Publication info:** Journal of theoretical biology 486 (Feb 7, 2020): 110094.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Dietary Stevioside Supplementation Alleviates Lipopolysaccharide-Induced Intestinal Mucosal Damage through Anti-Inflammatory and Antioxidant Effects in Broiler Chickens**
**Author:** Jiang, Jingle 1 ; Qi, Lina 1 ; Lv, Zengpeng 1 ; Jin, Song 2 ; Wei, Xihui 1 ; Shi, Fangxiong 1 1 National Experimental Teaching Demonstration Center of Animal Science, College of Animal Science and Technology, Nanjing Agricultural University, Nanjing 210095, China, China 2 Changzhou Animal Disease Control Center, Bureau of Agriculture and Rural Affairs of Changzhou, Changzhou 213003, China, China
**Publication info:** Antioxidants (Basel, Switzerland) 8.12 (Nov 21, 2019).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Rubusoside alleviates the ovalbumin-induced mice allergic asthma by modulating the NF-κB activation**
**Author:** Wang, Chengqiang 1 ; Tang, Jia 2 ; Qian, Bo 1 ; Zeng, Zhen 1 ; Gao, Yang 3 ; Song, Jia-Le 4 1 Department of Nutrition and Food Hygiene, School of Public Health, Guilin Medical University, Guilin, China 2 Institution of Documentation of Chinese Traditional Medicine Research, Nanjing University of Chinese Medicine, Nanjing, China 3 Department of Pharmacy, Northern Jiangsu People's Hospital, Yangzhou, China 4 Department of Nutrition and Food Hygiene, School of Public Health, Guilin Medical University, Guilin, China, Department of Surgery, School of Medicine, University of Maryland, MD, Baltimore, United States
**Publication info:** Journal of food biochemistry 44.5 (May 1, 2020): e13187.
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 144 of 266

**A beta-glucosidase gene from Stevia rebaudiana may be involved in the steviol glycosides catabolic pathway**
**Author:** Yang, Yongheng 1 ; Hou, Menglan 1 ; Zhang, Ting 1 ; Sun, Yuming 1 ; Zhang, Yongxia 1 ; Huang, Suzhen 1 ; Xu, Xiaoyang 1 ; Yuan, Haiyan 1 1 Institute of Botany, Jiangsu Province and Chinese Academy of Sciences, Nanjing, 210014, China, The Jiangsu Provincial Platform for Conservation and Utilization of Agricultural Germplasm, Nanjing, 210014, China, China intergoogle@126.com ; yuanhaiyan416@163.com
**Publication info:** Molecular biology reports 47.5 (May 2020): 3577-3584.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 145 of 266

**Biofunctionalization of magnetite nanoparticles with stevioside: effect on the size and thermal behaviour for use in hyperthermia applications**
**Author:** Gupta, Ruby 1 ; Sharma, Deepika 1 1 a Institute of Nano Science and Technology , Mohali , Punjab , India, India
**Publication info:** International journal of hyperthermia : the official journal of European Society for Hyperthermic Oncology, North American Hyperthermia Group 36.1 (2019): 302-312.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Heterologous expression of EUGT11 from Oryza sativa in Pichia pastoris for highly efficient one-pot production of rebaudioside D from rebaudioside A**
**Author:** Wang, Zhenyang 1 ; Hong, Jiefang 2 ; Ma, Siyuan 3 ; Huang, Tong 3 ; Ma, Yuanyuan 4 ; Liu, Wei 5 ; Liu, Wenbin 5 ; Liu, Zhiming 6 ; Song, Hao 7 1 College of Material Science and Engineering, Northeast Forestry University, Harbin 150040, China; R&D Division, Sinochem Health Company Ltd., Qingdao 266071, China, China 2 Biomass Conversion Laboratory, Tianjin R&D Center for Petrochemical Technology, Tianjin University, Tianjin 300072, China, China 3 Biomass Conversion Laboratory, Tianjin R&D Center for Petrochemical Technology, Tianjin University, Tianjin 300072, China; School of Chemical Engineering and Technology, Tianjin University, Tianjin 300072, China, China 4 Biomass Conversion Laboratory, Tianjin R&D Center for Petrochemical Technology, Tianjin University, Tianjin 300072, China; Frontier Science Center for Synthetic Biology, Key Laboratory of Systems Bioengineering (Ministry of Education), Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300072, China; Frontier Technology Institute (Wuqing), Tianjin University, Tianjin 30072, China, China myy@tju.edu.cn 5 School of Chemical Engineering and Technology, Tianjin University, Tianjin 300072, China, China 6 College of Material Science and Engineering, Northeast Forestry University, Harbin 150040, China, China 7 School of Chemical Engineering and Technology, Tianjin University, Tianjin 300072, China; Frontier Science Center for Synthetic Biology, Key Laboratory of Systems Bioengineering (Ministry of Education), Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300072, China; Frontier Technology Institute (Wuqing), Tianjin University, Tianjin 30072, China, China hsong@tju.edu.cn
**Publication info:** International journal of biological macromolecules 163 (Nov 15, 2020): 1669-1676.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Anti-cariogenic Characteristics of Rubusoside**
**Author:** Kim, Jeesoo; Thi Thanh Hanh Nguyen; Jin, Juhui; Septiana, Iis; Son, Gyu-Min; Lee, Gang-Hee; Jung, You-Jin; Qureshi, Dilshad; Mok, Il Kyoon; Pal, Kunal; Yang, Soo-Yeon; Kim, Seong-Bo; Kim, Doman
**Publication info:** Biotechnology and Bioprocess Engineering 24.2 (Mar 2019): 282-287.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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**Stevioside inhibits experimental fibrosis by down-regulating profibrotic Smad pathways and blocking hepatic stellate cell activation**
**Author:** Casas-Grajales, Sael 1 ; Alvarez-Suarez, Diana 1 ; Ramos-Tovar, Erika 1 ; Dayana Buendía-Montaño, Laura 1 ; Reyes-Gordillo, Karina 2 ; Camacho, Javier 1 ; Tsutsumi, Víctor 3 ; Lakshman, M Raj 2 ; Muriel, Pablo 1 1 Department of Pharmacology, Cinvestav-IPN, Mexico City, Mexico, Mexico 2 Department of Biochemistry and Molecular Biology, School of Medicine and Health Science, The George Washington University Medical Center, Washington, District of Columbia, Lipid Research Laboratory, VA Medical Center, Washington, District of Columbia, District of Columbia 3 Department of Infectomics and Molecular Pathogenesis, Cinvestav-IPN, Mexico City, Mexico, Mexico
**Publication info:** Basic & clinical pharmacology & toxicology 124.6 (Jun 2019): 670-680.
ProQuest document link
**Databases:** ToxFile® (1900 - current)

Document 149 of 266

**High affinity of 4-(4-(dimethylamino)styryl)-N-methylpyridinium transport for assessing organic cation drugs in hepatocellular carcinoma cells**
**Author:** Jinakote, Metee 1 ; Ontawong, Atcharaporn 2 ; Soodvilai, Sunhapas 3 ; Pimta, Jeerawat 3 ; Pasachan, Tipthida 4 ; Chatsudthipong, Varanuj 3 ; Srimaroeng, Chutima 4 1 Faculty of Oriental Medicine, Chiang Rai College, Chiang Rai, 57000, Thailand, Department of Physiology, Faculty of Medicine, Chiang Mai University, Chiang Mai, 50200, Thailand, Thailand 2 Unit of Excellence of Coffee, Division of Physiology, School of Medical Sciences, University of Phayao, Phayao, 56000, Thailand, Thailand 3 Research Center of Transport Protein for Medical Innovation, Department of Physiology, Faculty of Science, Mahidol University, Bangkok, 10400, Thailand, Thailand 4 Department of Physiology, Faculty of Medicine, Chiang Mai University, Chiang Mai, 50200, Thailand, Thailand
**Publication info:** Fundamental & clinical pharmacology (Dec 27, 2019).
ProQuest document link
**Databases:** ToxFile® (1900 - current)

Document 150 of 266

**Stevia residue extract alone and combination with allopurinol attenuate hyperuricemia in fructose-PO-induced hyperuricemic mice**
**Author:** Mehmood, Arshad 1 ; Zhao, Lei 1 ; Wang, Chengtao 1 ; Hossen, Imam 1 ; Nadeem, Muhammad 2 1 Beijing Advance Innovation Center for Food Nutrition and Human Health, Beijing Technology and Business University, Beijing, China, Beijing Engineering and Technology Research Center of Food Additives, School of Food and Chemical Technology, Beijing Technology and Business University, Beijing, China, China 2 Institute of Food Science and Nutrition, University of Sargodha, Sargodha, Pakistan, Pakistan
**Publication info:** Journal of food biochemistry 44.1 (Jan 2020): e13087.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 151 of 266

**Selective profiling of steviol-catalyzing UDP-glycosyltransferases with a metabolically synthesized probe**
**Author:** Wong, Nai-Kei 1 ; Zhong, Suyun; Li, Weichao; Zhou, Fugui; Deng, Zhangshuang; Zhou, Yiqing 1 School of Biotechnology and Food Engineering, Changshu Institute of Technology, Changshu 215500, China, China zhyq2012@gmail.com
**Publication info:** Chemical communications (Cambridge, England) 56.82 (Oct 21, 2020): 12387-12390.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 152 of 266

**Rebaudioside A administration prevents experimental liver fibrosis: an in vivo and in vitro study of the mechanisms of action involved**
**Author:** Casas-Grajales, Sael 1 ; Reyes-Gordillo, Karina 2 ; Cerda-García-Rojas, Carlos M 3 ; Tsutsumi, Víctor 4 ; Lakshman, M Raj 2 ; Muriel, Pablo 1 1 Department of Pharmacology, Cinvestav-IPN, Av. Instituto Politécnico Nacional 2508, Col. San Pedro Zacatenco, 07360, Apartado Postal 14-740, Mexico City, Mexico, Mexico 2 Department of Biochemistry and Molecular Biology, School of Medicine and Health Science, The George Washington University Medical Center, 2300 I St. NW, Washington, DC, 20052, USA, Lipid Research Laboratory, VA Medical Center, 50 Irving St., Washington, DC, 20422, USA, USA 3 Department of Chemistry, Cinvestav-IPN, Av. Instituto Politécnico Nacional 2508, Col. San Pedro Zacatenco, 07360, Apartado Postal 14-740, Mexico City, Mexico, Mexico 4 Department of Infectomics and Molecular Pathogenesis, Cinvestav-IPN, Av. Instituto Politécnico Nacional 2508, Col. San Pedro Zacatenco, 07360, Apartado Postal 14-740, Mexico City, Mexico, Mexico
**Publication info:** Journal of applied toxicology : JAT 39.8 (Aug 2019): 1118-1131.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Membrane separation processes for the extraction and purification of steviol glycosides: an overview**
**Author:** Castro-Muñoz, Roberto 1 ; Díaz-Montes, Elsa 2 ; Cassano, Alfredo 3 ; Gontarek, Emilia 4 1 Tecnologico de Monterrey, Toluca de Lerdo, Campus Toluca, Mexico 2 Unidad Profesional Interdisciplinaria de Biotecnología, Instituto Politécnico Nacional, México City, Mexico 3 Institute on Membrane Technology, ITM-CNR, c/o University of Calabria, Rende, Italy 4 Faculty of Chemistry, Department of Process Engineering and Chemical Technology, Gdansk University of Technology, Gdansk, Poland
**Publication info:** Critical reviews in food science and nutrition (Jun 4, 2020): 1-23.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**The impact of steviol glycosides and erythritol on the human and Cebus apella gut microbiome**
**Author:** Mahalak, Karley; Firrman, Jenni; Tomasula, Peggy M.; Nunez, Alberto; Lee, Jung-Jin; Bittinger, Kyle; Rinaldi, William; Liu, Linshu
**Publication info:** Journal of agricultural and food chemistry (Dec 23, 2019).
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 155 of 266

**Glycaemic effects and plasma exposure of steviol administration in type 2 diabetic mice**
**Author:** Simoens, C.; Wuyts, C.; Philippaert, K.; Beunen, K.; Khodaparast, L.; Goscinny, S.; Van Loco, J.; Van der Schueren, B.; Vennekens, R.
**Publication info:** Diabetologia 63.SUPPL 1, Suppl. 1, Sp. Iss. SI (Sep 2020): S234.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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**Erratum: Correction to RQ3, A Natural Rebaudioside D Isomer, Was Obtained from Glucosylation of Rebaudioside A Catalyzed by the CGTase Toruzyme 3.0 L (Journal of agricultural and food chemistry (2019) 67 28 (8020-8028))**
**Author:** Guo, Qingbin; Zhang, Tongtong; Wang, Nifei; Xia, Yongmei; Zhou, Zhuoyu; Wang, Jian-Rong; Mei, Xuefeng
**Publication info:** Journal of agricultural and food chemistry 68.42 (Oct 21, 2020): 11875-11876.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Impact of Natural and Artificial Sweeteners Compounds in the Sensory Profile and Preference Drivers Applied to Traditional, Lactose-Free, and Vegan Frozen Desserts of Chocolate Flavor**
**Author:** de Medeiros, Alessandra Cazelatto 1 ; Filho, Elson Rogério Tavares 1 ; Bolini, Helena Maria André 1 1 State Univ. of Campinas-FEA, Food and Nutrition Dept., Campinas, 13083-862, Brazil, Brazil
**Publication info:** Journal of food science 84.10 (Oct 2019): 2973-2982.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 158 of 266

**Sensory Influence of Sweetener Addition on Traditional and Decaffeinated Espresso**
**Author:** Cusielo, Kalinca Vitoria Cardoso 1 ; da Silva, Alessandra Cazelatto de Medeiros Lins 1 ; Tavares-Filho, Elson Rogerio 1 ; Bolini, Helena Maria André 1 1 Dept. of Food and Nutrition, School of Food Engineering, Univ. of Campinas, Campinas, Brazil
**Publication info:** Journal of food science 84.9 (Sep 1, 2019): 2628-2637.
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 159 of 266

**A comparison of the effects of Stevia extract and metformin on metabolic syndrome indices in rats fed with a high-fat, high-sucrose diet**
**Author:** Ranjbar, Tahereh 1 ; Nekooeian, Ali Akbar 2 ; Tanideh, Nader 3 ; Koohi-Hosseinabadi, Omid 4 ; Masoumi, Seyed Jalil 5 ; Amanat, Sasan 6 ; Azarpira, Negar 7 ; Monabati, Ahmad 8 1 Department of Clinical Nutrition, School of Nutrition and Food Science, Shiraz University of Medical Sciences, Shiraz, Iran, Iran 2 Department of Pharmacology, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran, Iran 3 Department of Pharmacology, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran, Stem Cells Technology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran, Iran 4 Department of Central Research Laboratory, Shiraz University of Medical Sciences, Shiraz, Iran, Iran 5 Department of Clinical Nutrition, School of Nutrition and Food Science, Shiraz University of Medical Sciences, Shiraz, Iran, Nutrition Research Center, School of Nutrition and Food Sciences, Shiraz University of Medical Sciences, Shiraz, Iran, Iran 6 Student Research Committee, Larestan University of Medical Sciences, Larestan, Iran, Iran 7 Transplant Research Center, Shiraz University of Medical Sciences, Shiraz, Iran, Iran 8 Department of Pathology and Hematology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran, Iran
**Publication info:** Journal of food biochemistry 44.8 (Aug 2020): e13242.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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Document 160 of 266

**Plausible biological interactions of low- and non-calorie sweeteners with the intestinal microbiota: An update of recent studies**
**Author:** Plaza-Diaz, Julio 1 ; Pastor-Villaescusa, Belén 2 ; Rueda-Robles, Ascensión 3 ; Abadia-Molina, Francisco 4 ; Ruiz-Ojeda, Francisco Javier 5 1 Department of Biochemistry and Molecular Biology II, School of Pharmacy, University of Granada, Granada, 18071, Spain, Institute of Nutrition and Food Technology “José Mataix”, Center of Biomedical Research, University of Granada, Avda. del Conocimiento s/n, Armilla Granada, 18016, Spain, Instituto de Investigación Biosanitaria IBS.GRANADA, Complejo Hospitalario Universitario de Granada, Granada, 18014, Spain 2 Department of Biochemistry and Molecular Biology II, School of Pharmacy, University of Granada, Granada, 18071, Spain, LMU–Ludwig-Maximilians-University of Munich, Division of Metabolic and Nutritional Medicine, von Hauner Children’s Hospital, University of Munich Medical Center, Munich, 80337, Germany, Institute of Epidemiology, Helmholtz ZentrumMünchen–German Research Centre for Environmental Health, Neuherberg, 85764, Germany 3 Department of Biochemistry and Molecular Biology II, School of Pharmacy, University of Granada, Granada, 18071, Spain, Institute of Nutrition and Food Technology “José Mataix”, Center of Biomedical Research, University of Granada, Avda. del Conocimiento s/n, Armilla Granada, 18016, Spain 4 Institute of Nutrition and Food Technology “José Mataix”, Center of Biomedical Research, University of Granada, Avda. del Conocimiento s/n, Armilla Granada, 18016, Spain, Department of Cell Biology, School of Sciences, University of Granada, Granada, 18071, Spain 5 Department of Biochemistry and Molecular Biology II, School of Pharmacy, University of Granada, Granada, 18071, Spain, Instituto de Investigación Biosanitaria IBS.GRANADA, Complejo Hospitalario Universitario de Granada, Granada, 18014, Spain, RG Adipocytes and metabolism, Institute for Diabetes and Obesity, Helmholtz Diabetes Center at Helmholtz Center Munich, Neuherberg, Munich, 85764, Germany francisco.ruiz@helmholtz-muenchen.de
**Publication info:** Nutrients 12.4 (Apr 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Consumption of non-nutritive sweeteners by pre-schoolers of the food and environment Chilean cohort (FECHIC) before the implementation of the Chilean food labelling and advertising law.**
**Author:** Venegas Hargous, C.; Reyes, M; Taillie, L S; González, C G; Corvalán, C
**Publication info:** Nutrition Journal 19.69 (2020): (10 July 2020).
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Polyphenols from Stevia rebaudiana (Bertoni) leaves and their functional properties**
**Author:** Myint, Khaing Zar 1 ; Wu, Ke 1 ; Xia, Yongmei 1 ; Fan, Ye 2 ; Shen, Jie 2 ; Zhang, Peter 3 ; Gu, Jianxin 4 1 State Key Laboratory of Food Science and Technology, Jiangnan Univ., 1800 Lihu Avenue, Wuxi, Jiangsu, 214122, China, Key Laboratory of Synthetic and Biological Colloids of Ministry of Education, School of Chemical and Materials Engineering, Jiangnan Univ., 1800 Lihu Avenue, Wuxi, Jiangsu, 214122, China, China 2 Key Laboratory of Synthetic and Biological Colloids of Ministry of Education, School of Chemical and Materials Engineering, Jiangnan Univ., 1800 Lihu Avenue, Wuxi, Jiangsu, 214122, China, China 3 Nascent Health Science LLC, 325 East 80th Street, 4E, New York, NY, 10075, U.S.A, U.S.A 4 Dept. of Biochemistry and Molecular Biology, School of Basic Medical Sciences, Fudan Univ., 130 Dong'an Rood, Shanghai, 200032, China, China
**Publication info:** Journal of food science 85.2 (Feb 2020): 240-248.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Divergent synthesis of complex diterpenes through a hybrid oxidative approach**
**Author:** Zhang, Xiao 1 ; King-Smith, Emma 1 ; Dong, Liao-Bin 1 ; Yang, Li-Cheng 1 ; Rudol, Jeffrey D. 1 ; Shen, Ben 2 ; Renata, Hans 1 1 Department of Chemistry, Scripps Research Institute, Jupiter, FL, 33458, United States hrenata@scripps.edu 2 Department of Chemistry, Scripps Research Institute, Jupiter, FL, 33458, United States, Department of Molecular Medicine, Natural Products Discovery Center at Scripps Research, Jupiter, FL, 33458, United States
**Publication info:** Science 369.6505 (Aug 14, 2020): 799-806.
ProQuest document link
**Databases:** Embase® (1947 - current)

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Document 164 of 266

**Protective and therapeutic effects of natural products against diabetes mellitus via regenerating pancreatic β-cells and restoring their dysfunction**
**Author:** Semwal, Deepak Kumar 1 ; Kumar, Ankit 2 ; Aswal, Sonali 2 ; Chauhan, Ashutosh 3 ; Semwal, Ruchi Badoni 4 1 Department of Phytochemistry, Faculty of Biomedical Sciences, Uttarakhand Ayurved University, Dehradun, India, India 2 Research and Development Centre, Faculty of Biomedical Sciences, Uttarakhand Ayurved University, Dehradun, India, India 3 Department of Biotechnology, Faculty of Biomedical Sciences, Uttarakhand Ayurved University, Dehradun, India, India 4 Department of Chemistry, Pt. Lalit Mohan Sharma Government Postgraduate College, Rishikesh, India, India
**Publication info:** Phytotherapy research : PTR (Sep 28, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Challenges in confectionery industry: Development and storage stability of innovative white tea-based candies**
**Author:** Šeremet, Danijela 1 ; Mandura, Ana 1 ; Cebin, Aleksandra Vojvodić 1 ; Martinić, Arijana 1 ; Galić, Kata 1 ; Komes, Draženka 1 1 Faculty of Food Technology and Biotechnology, Department of Food Engineering, University of Zagreb, Pietrotti St 6, Zagreb, Croatia, Croatia
**Publication info:** Journal of food science 85.7 (Jul 2020): 2060-2068.
ProQuest document link

**Databases:** MEDLINE® (1946 - current)

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**Use of mycorrhizal fungi releases the application of organic fertilizers to increase the production of leaf vitexin in yellow passion fruit**
**Author:** de Oliveira, Paula Tarcila Félix 1 ; Dos Santos, Emanuela Lima 2 ; da Silva, Wliana Alves Viturino 3 ; Ferreira, Magda Rhayanny Assunção 3 ; Soares, Luiz Alberto Lira 3 ; da Silva, Francineyde Alves 4 ; da Silva, Fábio Sérgio Barbosa 2 1 Programa de Pós-Graduação em Biologia Celular e Molecular Aplicada, Instituto de Ciências Biológicas, Universidade de Pernambuco, Recife, Pernambuco, Brasil. Laboratório de Análises, Pesquisas e Estudos em Micorrizas, Universidade de Pernambuco, Recife, Brazil, Laboratório de Tecnologia Micorrízica, Universidade de Pernambuco, Petrolina, Brazil, Brazil 2 Programa de Pós-Graduação em Biologia Celular e Molecular Aplicada, Instituto de Ciências Biológicas, Universidade de Pernambuco, Recife, Pernambuco, Brasil. Laboratório de Análises, Pesquisas e Estudos em Micorrizas, Universidade de Pernambuco, Recife, Brazil, Brazil 3 Núcleo de Desenvolvimento Analítico e Tecnológico de Fitoterápicos, Universidade Federal de Pernambuco, Recife, Brazil, Brazil 4 Laboratório de Tecnologia Micorrízica, Universidade de Pernambuco, Petrolina, Brazil, Brazil
**Publication info:** Journal of the science of food and agriculture 100.4 (Mar 15, 2020): 1816-1821.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**In vitro cytotoxicity evaluation of steviosid on cancerous liver (Hep G2), colon (HT29), breast (MCF7) cells and normal kidney cell (Hek293) in comparison with cisplatin.**
**Author:** Abolhasani, A; Heidari, F; Raminfar, R; Mousavi, S; Abolhasani, H
**Publication info:** Qom University of Medical Sciences Journal 14.3 (2020): fa27-fa34, en26.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Sweet taste receptor agonists alter ovarian functions and ovarian cycles in aged mice**
**Author:** Ngekure M X, Kavita 1 ; Jiang, Jingle 1 ; Enayatullah, Hamdard 1 ; Ennab, Wael 1 ; Mustafa, Sheeraz 1 ; Rodeni, Saif 1 ; Wei, Quanwei 1 ; Shi, Fangxiong 1 1 College of Animal Science and Technology, Nanjing Agricultural University, Nanjing, 210095, China fxshi@njau.edu.cn
**Publication info:** Reproductive biology 19.3 (Sep 1, 2019): 230-236.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Characterization of low calorie ready-to-serve peach beverage using natural sweetener, Stevia (Stevia rebaudiana Bertoni)**
**Author:** Ahmad, Uswa 1 ; Ahmad, Rabia Shabir 2 ; Imran, Ali 2 ; Mushtaq, Zarina 2 ; Hussian, Syed Makhdoom 3 1 Department of Food Science, Nutrition and Home Economics, Govt. College University, Faisalabad, Pakistan 2 Institute of Home and Food Sciences, Faculty of Science and Technology, Govt. College University, Faisalabad, Punjab, 38000, Pakistan rabiaahmad@gcuf.edu.pk 3 Department of Zoology, Govt. College University, Faisalabad, 38000, Pakistan
**Publication info:** Progress in Nutrition 21 (2019): 435-444.
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 170 of 266

**Phytochemical and pharmacological importance of stevia: a calorie-free natural sweetener.: Special isue on green management for sustainable sugar industry.**
**Author:** Singh, D P; Kumari, Meenakshi; Prakash, H G; Rao, G P; Solomon, S
**Publication info:** Sugar Tech 21.2 (2019): 227-234.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Erythrocyte Partitioning Profile of Isosteviol in Human and Rat Blood**
**Author:** Adehin, Ayorinde 1 ; Tan, Keai Sinn 2 ; Tan, Wen 2 1 Institute of Biomedical and Pharmaceutical Sciences, Guangdong University of Technology, Guangzhou, China, Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Obafemi Awolowo University, Ile-Ife, Nigeria ayoadehin@outlook.com 2 Institute of Biomedical and Pharmaceutical Sciences, Guangdong University of Technology, Guangzhou, China went@gdut.edu.cn
**Publication info:** Current Therapeutic Research - Clinical and Experimental 91 (2019): 1-4.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Rate-All-That-Apply (RATA) comparison of taste profiles for different sweeteners in black tea, chocolate milk, and natural yogurt**
**Author:** Tan, Vicki Wei Kee 1 ; Wee, May Sui Mei 1 ; Tomic, Oliver 2 ; Forde, Ciarán G 3 1 Clinical Nutrition Research Center, A*STAR Singapore Inst. for Clinical Sciences, Medical Drive, Singapore, Singapore 2 Faculty of Science and Technology, Norwegian Univ. of Life Sciences, Ås, Norway, Norway 3 Clinical Nutrition Research Center, A*STAR Singapore Inst. for Clinical Sciences, Medical Drive, Singapore, Dept. of Physiology, Yong Loo Lin School of Medicine, Natl. Univ. of Singapore, Kent Ridge Road, Singapore, Singapore
**Publication info:** Journal of food science 85.2 (Feb 2020): 486-492.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Tangential microfiltration of blackberry (*Rubus adenotrichus* Schltdl.) juice sweetened with stevia (*Stevia rebaudiana* Bertoni).**
**Author:** González T, C; Vaillant B, F; Tapia G, M S
**Publication info:** Revista de Ciencias Agrícolas 36.2 (2019): 17-30.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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Document 174 of 266

**Effects of dietary sweeteners supplementation on growth performance, serum biochemicals, and jejunal physiological functions of broiler chickens**
**Author:** Jiang, Jingle 1 ; Liu, Siyi 1 ; Jamal, Tuniyaz 1 ; Ding, Tengxin 1 ; Qi, Lina 1 ; Lv, Zengpeng 1 ; Yu, Debing 1 ; Shi, Fangxiong 1 1 National Experimental Teaching Demonstration Center of Animal Science, College of Animal Science and Technology, Nanjing Agricultural University, Nanjing, 210095, China fxshi@njau.edu.cn
**Publication info:** Poultry science 99.8 (Aug 1, 2020): 3948-3958.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Plant-based antidiabetic nanoformulations: The emerging paradigm for effective therapy**
**Author:** Dewanjee, Saikat 1 ; Chakraborty, Pratik 1 ; Mukherjee, Biswajit 2 ; De Feo, Vincenzo 3 1 Advanced Pharmacognosy Research Laboratory, Department of Pharmaceutical Technology, Jadavpur University, Kolkata, 700032, India saikat.dewanjee@jadavpuruniversity.in ; pratik.chakraborty88@yahoo.com 2 Pharmaceutics Research Laboratory, Department of Pharmaceutical Technology, Jadavpur University, Kolkata, 700032, India biswajit.mukherjee@jadavpuruniversity.in 3 Department of Pharmacy, University of Salerno, Fisciano, 84084, Italy defeo@unisa.it
**Publication info:** International Journal of Molecular Sciences 21.6 (Mar 2, 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Biodegradability assessment of food additives using OECD 301F respirometric test**
**Author:** Gatidou, Georgia 1 ; Vazaiou, Niki 1 ; Thomaidis, Nikolaos S. 2 ; Stasinakis, Athanasios S. 1 1 Department of Environment, Water and Air Quality Laboratory, University of the Aegean, University Hill, Mytilene, 81100, Greece ggatid@env.aegean.gr 2 Laboratory of Analytical Chemistry, Department of Chemistry, National and Kapodistrian University of Athens, Athens, 157 71, Greece
**Publication info:** Chemosphere 241 (Feb 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Novel insights into the potential role of ion transport in sensory perception in Acanthamoeba**
**Author:** Siddiqui, Ruqaiyyah 1 ; Roberts, Stephen K. 2 ; Ong, Timothy Yu Yee 3 ; Mungroo, Mohammad Ridwane 3 ; Anwar, Areeba 3 ; Khan, Naveed Ahmed 1 1 Department of Biology, Chemistry and Environmental Sciences, College of Arts and Sciences, American University of Sharjah, Sharjah, United Arab Emirates, Department of Biological Sciences, School of Science and Technology, Sunway University, Bandar Sunway, Malaysia ruqaiyyah_s@hotmail.com ; naveed5438@gmail.com 2 Biomedical and Life Sciences, Lancaster University, Lancaster, United Kingdom s.k.roberts@lancaster.ac.uk 3 Department of Biological Sciences, School of Science and Technology, Sunway University, Bandar Sunway, Malaysia timothyy@sunway.edu.my ; ridwanemungroo@gmail.com ; areeba_anwar@ymail.com
**Publication info:** Parasites and Vectors 12.1 (Nov 14, 2019).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Sweeteners modulate bioactivity of endothelial progenitor cells but not induce detrimental effects both on inflammation and behavioural changes**
**Author:** Schiano, Concetta 1 ; Grimaldi, Vincenzo 2 ; Boccella, Serena 3 ; Iannotta, Monica 3 ; Zullo, Alberto 4 ; Luongo, Livio 3 ; Mancini, Francesco Paolo 4 ; Maione, Sabatino 3 ; Napoli, Claudio 5 1 IRCCS SDN, Naples, Italy 2 Department of Medical, Surgical, Neurological, Metabolic and Geriatric Sciences, U.O.C. Immunohematology, Transfusion Medicine and Transplant Immunology, Azienda Ospedaliera Universitaria, Naples, Italy, Department of Sciences and Technologies, University of Sannio, Benevento, Italy 3 Department of Experimental Medicine, Section of Pharmacology 'L. Donatelli', Naples, Italy 4 Department of Sciences and Technologies, University of Sannio, Benevento, Italy 5 IRCCS SDN, Naples, Italy, Department of Medical, Surgical, Neurological, Metabolic and Geriatric Sciences, U.O.C. Immunohematology, Transfusion Medicine and Transplant Immunology, Azienda Ospedaliera Universitaria, Naples, Italy
**Publication info:** International journal of food sciences and nutrition 70.6 (Sep 1, 2019): 725-737.
ProQuest document link **Databases:** Embase® (1947 - current)

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**Infection by the parasitic helminth Trichinella spiralis activates a Tas2r-mediated signaling pathway in intestinal tuft cells**
**Author:** Luo, Xiao-Cui 1 ; Chen, Zhen-Huang 1 ; Xue, Jian-Bo 1 ; Zhao, Dong-Xiao 1 ; Lu, Chen 1 ; Li, Yi-Hong 1 ; Li, Song-Min 1 ; Du, Ya-Wen 1 ; Liu, Qun 1 ; Wang, Ping 2 ; Liu, Mingyuan 3 ; Huang, Liquan 4 1 College of Life Sciences, Zhejiang University, Hangzhou, 310058, China 2 Biosensor National Special Lab, Key Lab for Biomedical Engineering of Ministry of Education, Department of Biomedical Engineering, Zhejiang University, Hangzhou, 310027, China 3 Key Lab of Zoonosis Research, Institute of Zoonosis, Jilin University, Changchun, 130062, China, College of Veterinary Medicine, Jilin University, Changchun, 130062, China 4 College of Life Sciences, Zhejiang University, Hangzhou, 310058, China, Monell Chemical Senses Center, Philadelphia, PA, 19104, United States huangliquan@zju.edu.cn
**Publication info:** Proceedings of the National Academy of Sciences of the United States of America 116.12 (2019): 5564-5569.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Optimization of the silica-gel adsorption technique for the extraction of phytosterol glycosides from soybean lecithin powder using response surface methodology and artificial neural network models**
**Author:** Kang, Jingjing 1 ; Cao, Dong 1 1 Natl. Engineering Laboratory for Food Science and Technology, Oil and Plant Protein Center, School of Food Science and Technology, Jiangnan Univ., 1800 Lihu Rd, Wuxi, Jiangsu Province, 214122, P. R. China, P. R. China
**Publication info:** Journal of food science 85.7 (Jul 2020): 1971-1982.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Cross-modal effect of vanilla aroma on sweetness of different sweeteners among Chinese and Danish consumers.**
**Author:** Bertelsen, A S; Zeng, Yan; Mielby, L A; Sun YuanXia; Byrne, D V; Kidmose, U
**Publication info:** Food Quality and Preference 87 (2021).
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Anti-obesity effect of plant diterpenes and their derivatives: A review**
**Author:** Islam, Muhammad Torequl 1 ; Ali, Eunus S. 2 ; Mubarak, Mohammad S. 3 1 Department for Management of Science and Technology Development, Ton Duc Thang University, Ho Chi Minh City, Viet Nam, Faculty of Pharmacy, Ton Duc Thang University, Ho Chi Minh City, Viet Nam muhammad.torequl.islam@tdtu.edu.vn 2 Gaco Pharmaceuticals and Research Laboratory, Dhaka, Bangladesh, College of Medicine and Public Health, Flinders University, Adelaide, SA, Australia 3 Department of Chemistry, The University of Jordan, Amman, Jordan
**Publication info:** Phytotherapy Research 34.6 (Jun 1, 2020): 1216-1225.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Preparation technology and quality evaluation of *Schisandra chinensis* effervescent tablets.**
**Author:** Qu ZhongYuan; Zhu ShiRu; Jiang, Xue; Zou Xiang; Wang, XinChen; Wu, Shuang; Li, WenLan
**Publication info:** Food Research and Development 41.6 (2020): 99-105.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Development of grape polyphenol compound solid beverage.**
**Author:** Li, JianHui; Lu, WenJing; Wang XiuJin; Liao ZhenYu
**Publication info:** Food Research and Development 41.17 (2020): 70-73.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**A randomized controlled trial contrasting the effects of 4 low-calorie sweeteners and sucrose on body weight in adults with overweight or obesity.**
**Author:** Higgins, K A; Mattes, R D
**Publication info:** American Journal of Clinical Nutrition 109.5 (2019): 1288-1301.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Rapid identification of some sweeteners and sugars by attenuated total reflectance-Fourier transform infrared (ATR-FTIR), near-infrared (NIR) and Raman spectroscopy.**
**Author:** Guven, B; Velioglu, S D; Boyaci, I H
**Publication info:** GIDA - Journal of Food 44.2 (2019): 274-290.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Glycoside-specific glycosyltransferases catalyze regio-selective sequential glucosylations for a sesame lignan, sesaminol triglucoside**
**Author:** Ono, Eiichiro 1 ; Waki, Toshiyuki 2 ; Oikawa, Daiki 2 ; Murata, Jun 3 ; Shiraishi, Akira 3 ; Toyonaga, Hiromi 1 ; Kato, Masako 4 ; Ogata, Naoki 4 ; Takahashi, Seiji 2 ; Yamaguchi, Masa-Atsu 5 ; Horikawa, Manabu 3 ; Nakayama, Toru 2 1 Suntory Global Innovation Center (SIC) Ltd., Research Institute, Soraku-gun, Kyoto, 619-0284, Japan, Japan 2 Graduate School of Engineering, Tohoku University, Sendai, Miyagi, 980-8579, Japan, Japan 3 Suntory Bioorganic Research Institute (SUNBOR), Suntory Foundation for Life Sciences, Soraku-gun, Kyoto, 619-0284, Japan, Japan 4 National Agriculture and Food Research Organization (NARO), Tsukuba, Ibaraki, 305-8517, Japan, Japan 5 Minami-Kyushu University, Miyakonojo, Miyazaki, 885-0035, Japan, Japan
**Publication info:** The Plant journal : for cell and molecular biology 101.5 (Mar 2020): 1221-1233.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Diabetes and plant-derived natural products: From ethnopharmacological approaches to their potential for modern drug discovery and development**
**Author:** Jugran, Arun K. 1 ; Rawat, Sandeep 2 ; Devkota, Hari P. 3 ; Bhatt, Indra D. 4 ; Rawal, Ranbeer S. 4 1 Garhwal Regional Centre, G. B. Pant National Institute of Himalayan Environment (NIHE), Srinagar, Uttarakhand, India arunjugran@gbpihed.nic.in 2 Sikkim Regional Centre, G. B. Pant National Institute of Himalayan Environment (NIHE), Gangtok, Sikkim, India sandeep_rawat15@rediffmail.com 3 Department of Instrumental Analysis, Graduate School of Pharmaceutical Sciences, Kumamoto University, Kumamoto, Japan devkotah@kumamoto-u.ac.jp 4 Center for Biodiversity Conservation and Management (CBCM), G. B. Pant National Institute of Himalayan Environment (NIHE), Kosi-Katarmal, Almora, Uttarakhand, India bhattid4@gmail.com ; ranbeerrawal4@gmail.com
**Publication info:** Phytotherapy Research (2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**STAT signaling in polycystic kidney disease**
**Author:** Strubl, Sebastian 1 ; Torres, Jacob A. 2 ; Spindt, Alison K. 2 ; Pellegrini, Hannah 2 ; Liebau, Max C. 3 ; Weimbs, Thomas 2 1 Department of Molecular, Cellular, and Developmental Biology, Neuroscience Research Institute, University of California Santa Barbara, Santa Barbara, CA, 93106-9625, United States, Department II of Internal Medicine, Faculty of Medicine and University Hospital Cologne, University of Cologne, Cologne, Germany 2 Department of Molecular, Cellular, and Developmental Biology, Neuroscience Research Institute, University of California Santa Barbara, Santa Barbara, CA, 93106-9625, United States weimbs@ucsb.edu 3 Department of Pediatrics and Center for Molecular Medicine Cologne, Faculty of Medicine and University Hospital Cologne, University of Cologne, Cologne, Germany, Department II of Internal Medicine, Faculty of Medicine and University Hospital Cologne, University of Cologne, Cologne, Germany
**Publication info:** Cellular Signalling 72 (Aug 2020).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Natural sweeteners: The relevance of food naturalness for consumers, food security aspects, sustainability and health impacts**
**Author:** Saraiva, Ariana 1 ; Carrascosa, Conrado 1 ; Raheem, Dele 2 ; Ramos, Fernando 3 ; Raposo, António 4 1 Department of Animal Pathology and Production, Bromatology and Food Technology, Faculty of Veterinary, Universidad de Las Palmas de Gran Canaria, Trasmontaña s/n, Arucas, 35413, Spain 2 Northern Institute for Environmental and Minority Law (NIEM), Arctic Centre, University of Lapland, Rovaniemi, Lapland, 96101, Finland 3 Pharmacy Faculty, University of Coimbra, Azinhaga de Santa Comba, Coimbra, 3000-548, Portugal, REQUIMTE/LAQV, Apartado, R. D. Manuel II, Oporto, 55142, Portugal 4 Department for Management of Science and Technology Development, Ton Duc Thang University, Ho Chi Minh City, Viet Nam, Faculty of Environment and Labour Safety, Ton Duc Thang University, Ho Chi Minh City, Viet Nam antonio.raposo@tdtu.edu.vn
**Publication info:** International Journal of Environmental Research and Public Health 17.17 (Sep 1, 2020): 1-22.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Exploring novel endothelin receptor blocker as anti-hypertensive agents identified from a natural drugs library using induced fit docking and biological assay**
**Author:** Patel, Jimish R. 1 ; Joshi, Hirak V. 2 ; Shah, Ujashkumar A. 2 ; Patel, Jayvadan K. 2 1 Department of Pharmaceutical Chemistry, Shri B.M. Shah College of Pharmaceutical Education and Research, College Campus, Dhansura Road, Modasa, Gujarat, 383315, India, Sankalchand Patel University, S.K. Campus, Kamana Cross Road, Visnagar, Gujarat, 384315, India 2 Department of Quality Assurance & Pharmaceutical Chemistry, Nootan Pharmacy College, Sankalchand Patel University, S.K. Campus, Kamana Cross Road, Visnagar, Gujarat, 384315, India jimish_patel_1986@yahoo.co.in
**Publication info:** Medicinal Plants 12.3 (Sep 2020): 405-413.
ProQuest document link **atabases:** Embase® (1947 - current)

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**Nematicidal activity of Stevia rebaudiana (Bertoni) assisted by phytochemical analysis**
**Author:** Ntalli, Nikoletta 1 ; Kasiotis, Konstantinos M. 2 ; Baira, Eirini 2 ; Stamatis, Christos L. 3 ; Machera, Kyriaki 2 1 Laboratory of Biological Control of Pesticides, Department of Pesticides Control and Phytopharmacy, Benaki Phytopathological Institute, 8 St. Delta Street, Athens, 14561, Greece n.ntalli@bpi.gr 2 Laboratory of Pesticides' Toxicology, Department of Pesticides Control and Phytopharmacy, Benaki Phytopathological Institute, 8 St. Delta Street, Athens, 14561, Greece k.kasiotis@bpi.gr ; e.baira@bpi.gr ; k.machera@bpi.gr 3 Stevia Hellas Coop, 6th klm Lamia-Karpenisi, Lamia, PS 35131, Greece christos.stamatis@stevianet.gr
**Publication info:** Toxins 12.5 (May 2020).
ProQuest document link **Databases:** Embase® (1947 - current)

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**Anticancer property of hexane extract of Suaeda fruticose plant leaves against different cancer cell lines**
**Author:** Saleh, Kamel A. 1 ; Albinhassan, Tahani H. 1 ; Al-Ghazzawi, Adel M. 2 ; Mohaya, Abdulrahman 3 ; Shati, Ali A. 1 ; Ayoub, Huda J. 4 ; Abdallah, Qasem M. 5 1 Department of Biology, Science College, King Khalid University, PO Box 9004, Abha, Saudi Arabia kasaleh@kku.edu.sa 2 Department of Chemistry, Science College, King Khalid University, PO Box 9004, Abha, Saudi Arabia 3 Asser Toxicology Center, King Abduallah Street, PO Box 1988, Abha, 61441, Saudi Arabia 4 Department of Pharmacognosy, Pharmacy College, Alzaytoonah University, Amman, Jordan 5 Department of Pharmacology, Pharmacy College, University of Petra, Amman, Jordan
**Publication info:** Tropical Journal of Pharmaceutical Research 19.1 (2020): 129-136.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Consumo de edulcorantes no calóricos en embarazadas chilenas: estudio transversal**
**Author:** Fuentealba Arévalo, Fabiola 1 ; Espinoza Espinoza, Jonathan 1 ; Salazar Ibacahe, Carolina 1 ; Durán Agüero, Samuel 1 1 Facultad de Ciencias para el Cuidado de la Salud. Universidad San Sebastián
**Publication info:** Nutricion hospitalaria 36.4 (Aug 26, 2019): 890-897.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Recent advancements in fungal-derived fuel and chemical production and commercialization**
**Author:** Ekas, Holly 1 ; Deaner, Matthew 1 ; Alper, Hal S 2 1 McKetta Department of Chemical Engineering, The University of Texas at Austin, 200 E Dean Keeton St. Stop C0400, Austin, TX, 78712, United States 2 McKetta Department of Chemical Engineering, The University of Texas at Austin, 200 E Dean Keeton St. Stop C0400, Austin, TX, 78712, United States, Institute for Cellular and Molecular Biology, The University of Texas at Austin, 2500 Speedway Avenue, Austin, TX, 78712, United States halper@che.utexas.edu
**Publication info:** Current Opinion in Biotechnology 57 (Jun 2019): 1-9.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**The optimization of prebiotic sucrose-free mango nectar by response surface methodology: The effect of stevia and inulin on physicochemical and rheological properties**
**Author:** Alizadeh, Ainaz 1 ; Oskuyi, Amin Seyedan 1 ; Amjadi, Sajed 2 1 Department of Food Science and Technology, Islamic Azad University, Tabriz Branch, Tabriz, Iran 2 Department of Food Science and Technology, Faculty of Agriculture, Urmia University, Urmia, Iran, Biotechnology Research Center, Tabriz University of Medical Sciences, Tabriz, Iran
**Publication info:** Food science and technology international = Ciencia y tecnologia de los alimentos internacional 25.3 (Apr 1, 2019): 243-251.
ProQuest document link **Databases:** Embase® (1947 - current)

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**Bioproduction of the recombinant SWEET protein thaumatin: Current state of the art and perspectives**
**Author:** Joseph, Jewel Ann 1 ; Akkermans, Simen 1 ; Nimmegeers, Philippe 1 ; Van Impe, Jan F.M. 1 1 BioTeC+, Chemical and Biochemical Process Technology and Control, Department of Chemical Engineering, KU Leuven, Leuven, Belgium, Optimization in Engineering Center-of-Excellence, KU Leuven, Leuven, Belgium, CPMF2, Flemish Cluster Predictive Microbiology in Foods, Leuven, Belgium jan.vanimpe@kuleuven.be
**Publication info:** Frontiers in Microbiology 10.APR (2019).
ProQuest document link **Databases:** Embase® (1947 - current)

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**Sweetening agents and sweeteners in dietary supplements for children-analysis of the Polish market**
**Author:** Piekara, Agnieszka 1 ; Krzywonos, Małgorzata 1 ; Szymańska, Anna 1 1 Department of Bioprocess Engineering, Wroclaw University of Economics and Business, room 301H, Komandorska 118/120, Wrocław, 53-345, Poland agnieszka.piekara@ue.wroc.pl ; malgorzata.krzywonos@ue.wroc.pl ; anna.szymanska@ue.wroc.pl
**Publication info:** Nutrients 12.8 (Aug 2020): 1-9.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Comparison of stevia leaf extract (*Stevia rebaudiana*) and sucrose sugar addition on the textural properties of Kanomtian crust.**
**Author:** Suwannarong, S; Chotthanom, P; Banlue, K; Niyom, B; Kanarun, K
**Publication info:** Kaen Kaset = Khon Kaen Agriculture Journal 47.Suppl. 1 (2019): 657-662.
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**Databases:** CAB ABSTRACTS (1910 - current)

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**Cirrhosis induced by thioacetamide is prevented by stevia. Molecular mechanisms.**
**Author:** Ramos-Tovar, E; Casas-Grajales, S; Hernández-Aquino, E; Flores-Beltrán, R E; Galindo-Gómez, S; Vera-Aguilar, E; Diaz-Ruiz, A; Montes, S; Camacho, J; Tsutsumi, V; Muriel, P
**Publication info:** Journal of Functional Foods 52 (2019): 552-564.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Bioactivity profile of the diterpene isosteviol and its derivatives.**
**Author:** Ullah, Asad; Munir, Sidra; Mabkhot, Yahia; Badshah, S L
**Publication info:** Molecules 24.4 (2019): 678.
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

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**Consumption Of The Sugar Substitute Stevia Leads To Cross-Reactivity Of CEDIA® Buprenorphine II Immunoassay**
**Author:** Plattner, Sabine 1 ; Pavlic, Marion 1 ; Pitterl, Florian 1 ; Schubert, Birthe 1 1 Institute of Legal Medicine, Medical University of Innsbruck, Innsbruck, Austria, Austria
**Publication info:** Journal of analytical toxicology (Oct 26, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Non-nutritive Sweeteners Induce Hypothalamic ER Stress Causing Abnormal Axon Outgrowth**
**Author:** Park, Soyoung 1 ; Sethi, Sunjay 1 ; Bouret, Sebastien G 2 1 Development Neuroscience Program, Children's Hospital Los Angeles, Los Angeles, CA, United States, United States 2 INSERM, Laboratory of Development and Plasticity of the Neuroendocrine Brain, Jean-Pierre Aubert Research Centre, UMR-S 1172, Lille, France, University of Lille, FHU 1, 000 Days for Health, Lille, France, France
**Publication info:** Frontiers in endocrinology 10 (Dec 17, 2019): 876.
ProQuest document link **Databases:** MEDLINE® (1946 - current)

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**Changes in nutrient and calorie intake, adipose mass, triglycerides and TNF-α concentrations after non-caloric sweetener intake: Pilot study**
**Author:** Sánchez-Delgado, Marcela 1 ; Estrada, José Antonio 1 ; Paredes-Cervantes, Vladimir 2 ; Kaufer-Horwitz, Martha 3 ; Contreras, Irazú, Phd 1 1 Laboratorio de Neuroquímica, Facultad de Medicina, Universidad Autónoma Del Estado de México, Paseo Tollocan s/n esq. Jesús Carranza, Colonia Moderna de la Cruz, Toluca, C.P. 50180, Mexico icontrerasg@uaemex.mx 2 UMAE, Hospital General, Centro Médico Nacional la Raza, Instituto Mexicano Del Seguro Social, Mexico 3 Clínica de Obesidad y Trastornos de la Conducta Alimentaria, Instituto Nacional de Ciencias Médicas y Nutrición, Salvador Zubirán, Mexico
**Publication info:** International Journal for Vitamin and Nutrition Research (2019).
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Changes in Appetite Regulation-Related Signaling Pathways in the Brain of Mice Supplemented with Non-nutritive Sweeteners**
**Author:** Contreras-Chavez, Gerson G 1 ; Estrada, José A 1 ; Contreras, Irazú 1 1 Laboratorio de Neuroquímica, Facultad de Medicina, Universidad Autónoma del Estado de México, Paseo Tollocan S/N Esq. Jesús Carranza, Colonia Moderna de La Cruz, Estado de México, 50180, Toluca, Mexico, Mexico icontrerasg@uaemex.mx
**Publication info:** Journal of molecular neuroscience : MN (Oct 31, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**De novo transcriptome dataset of Stevia rebaudiana accession MS007.**
**Author:** Samsulrizal, Nurul H 1 ; Khadzran, Khairul S 1 ; Shaarani, Siti Hn 2 ; Noh, Abdul L 1 ; Sundram, Tamil Cm 1 ; Naim, Mohd Azrul 3 ; Zainuddin, Zarina 1 1 Department of Plant Science, Kulliyyah of Science, International Islamic University Malaysia, Jln. Sultan Ahmad Shah, Kuantan, Pahang, Malaysia. 2 Faculty of Chemical & Natural Resources Engineering, Universiti Malaysia Pahang, Lebuhraya Tun Razak, Gambang, Pahang, Malaysia. 3 Research Unit for Bioinformatics and Computational Biology (RUBIC), Kulliyyah of Science, International Islamic University Malaysia, Jln. Sultan Ahmad Shah, Kuantan, Pahang, Malaysia.
**Publication info:** Data in brief 28 (February 2020): 104811.
ProQuest document link
**Databases:** TOXLINE (1999 - current)

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**De novo transcriptome dataset of Stevia rebaudiana accession MS007**
**Author:** Samsulrizal, Nurul H 1 ; Khadzran, Khairul S 2 ; Shaarani, Siti Hn 3 ; Noh, Abdul L 2 ; Sundram, Tamil Cm 2 ; Naim, Mohd Azrul 4 ; Zainuddin, Zarina 2 1 Department of Plant Science, Kulliyyah of Science, International Islamic University Malaysia, Jln. Sultan Ahmad Shah, Kuantan, Pahang, Malaysia, Research Unit for Bioinformatics and Computational Biology (RUBIC), Kulliyyah of Science, International Islamic University Malaysia, Jln. Sultan Ahmad Shah, Kuantan, Pahang, Malaysia, Malaysia 2 Department of Plant Science, Kulliyyah of Science, International Islamic University Malaysia, Jln. Sultan Ahmad Shah, Kuantan, Pahang, Malaysia, Malaysia 3 Faculty of Chemical & Natural Resources Engineering, Universiti Malaysia Pahang, Lebuhraya Tun Razak, Gambang, Pahang, Malaysia, Malaysia 4 Research Unit for Bioinformatics and Computational Biology (RUBIC), Kulliyyah of Science, International Islamic University Malaysia, Jln. Sultan Ahmad Shah, Kuantan, Pahang, Malaysia, Malaysia
**Publication info:** Data in brief 28 (Nov 15, 2019): 104811.
ProQuest document link
**Databases:** ToxFile® (1900 - current)

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**Stevia-containing beverage**
**Author:** Anonymous
**Publication info:** Nakajima, Makoto. Kobayashi, Yasuyuki. US 10750764. 25 August 2020 (20200825). US.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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**Overuse of Non-caloric Sweeteners in Foods and Beverages in Chile: A Threat to Consumers' Free Choice?**
**Author:** Sambra, Verónica 1 ; López-Arana, Sandra 1 ; Cáceres, Paola 1 ; Abrigo, Karen 1 ; Collinao, Javiera 2 ; Espinoza, Alexandra 2 ; Valenzuela, Sabrina 2 ; Carvajal, Bielka 3 ; Prado, Gabriel 1 ; Peralta, Rebeca 1 ; Gotteland, Martin 4 1 Department of Nutrition, Faculty of Medicine, University of Chile, Santiago, Chile, Chile 2 Faculty of Medicine, School of Nutrition and Dietetics, University of Chile, Santiago, Chile, Chile 3 Department of Women and Newborn's Health Promotion, Faculty of Medicine, University of Chile, Santiago, Chile, Chile 4 Department of Nutrition, Faculty of Medicine, University of Chile, Santiago, Chile, Human Nutrition Unit, Institute of Nutrition and Food Technology (INTA), University of Chile, Santiago, Chile, Chile
**Publication info:** Frontiers in nutrition 7 (Jun 17, 2020): 68.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Microorganisms for diterpene production**
**Author:** Anonymous
**Publication info:** Boer, Viktor Marius. Suir, Erwin. US 10689681. 23 June 2020 (20200623). US.
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**Databases:** BIOSIS Previews® (1926 - current)

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**Heat treatment to produce glycosides**
**Author:** Anonymous
**Publication info:** Anderson, James C.. Brower, Robert J.. Carlson, Ting Liu. Flores, Belit. Gaspard, Dan S.. Mortenson, Kristopher T.. Nygaard, Richard. Paulson, Nicole. Rasmussen, Maribeth. US 10612065. 07 April 2020 (20200407). US.
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**Databases:** BIOSIS Previews® (1926 - current)

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**Optimization of regeneration and Agrobacterium-mediated transformation of Stevia (Stevia rebaudiana Bertoni): a commercially important natural sweetener plant**
**Author:** Taak, Pooja 1 ; Tiwari, Siddharth 2 ; Koul, Bhupendra 1 1 School of Bioengineering and Biosciences, Lovely Professional University, Jalandhar-Delhi G.T. Road (NH-1), Phagwara, Punjab, 144411, India bhupendra.18673@lpu.co.in 2 Department of Biotechnology, Govt. of India, National Agri-Food Biotechnology Institute (NABI), Knowledge City, Sector 81S.A.S. Nagar, Mohali, Punjab, 140306, India siddharth@nabi.res.in
**Publication info:** Scientific reports 10.1 (Oct 1, 2020): 16224.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Development of screening methods for functional characterization of UGTs from Stevia rebaudiana**
**Author:** Petit, Eva 1 ; Berger, Monique 1 ; Camborde, Laurent 2 ; Vallejo, Veronica 3 ; Daydé, Jean 1 ; Jacques, Alban 1 1 Equipe Physiologie, Pathologie et Génétique Végétales (PPGV), INP-PURPAN, Université de Toulouse, 75 voie du TOEC ,BP 57611, 31076, France monique.berger@purpan.fr 2 Laboratoire de Recherche en Sciences Végétales (LRSV), CNRS, Université Paul Sabatier (UPS), Toulouse, France 3 PepsiCo, 700 Anderson Hill Rd., Purchase, NY, 10577, USA
**Publication info:** Scientific reports 10.1 (Sep 15, 2020): 15137.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Greenhouse evaluation of branching, leaf yield and biochemical compositions of Stevia rebaudiana Bertoni to decapitation and foliar application of abscisic acid and fluridone**
**Author:** Tavakoli Hasanaklou, Nasibeh; Sedghi, Mohammad; Moradi, Foad; Ebadi Khazineh Ghadim, Ali; Jahanbakhsh Ghodehkahriz, Sodabeh
**Publication info:** Functional plant biology : FPB (Jul 31, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**An Efficient Stevia rebaudiana Transformation System and In vitro Enzyme Assays Reveal Novel Insights into UGT76G1 Function**
**Author:** Wu, Qian 1 ; La Hovary, Christophe 2 ; Chen, Han-Yi 3 ; Li, Xu 3 ; Eng, Hayde 1 ; Vallejo, Veronica 4 ; Qu, Rongda 5 ; Dewey, Ralph E 5 1 Department of Crop and Soil Sciences, North Carolina State University, Raleigh, NC, 27695, USA, Elo Life Systems, 3054 East Cornwallis Road, Durham, NC, 27709, USA, USA 2 Department of Crop and Soil Sciences, North Carolina State University, Raleigh, NC, 27695, USA, Johnson County Community College, 12345 College Blvd, Overland Park, KS, 66210, USA, USA 3 Department of Plant and Microbial Biology, North Carolina State University, Raleigh, NC, 27695, USA, USA 4 PepsiCo, 700 Anderson Hill Rd, Purchase, NY, 10577, USA, USA 5 Department of Crop and Soil Sciences, North Carolina State University, Raleigh, NC, 27695, USA, USA ralph_dewey@ncsu.edu
**Publication info:** Scientific reports 10.1 (Feb 28, 2020): 3773.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**A Novel Urinary Biomarker Approach Reveals Widespread Exposure to Multiple Low-Calorie Sweeteners in Adults**
**Author:** Logue, Caomhan 1 ; Dowey, Le Roy C 1 ; Verhagen, Hans 2 ; Strain, J.J. 1 ; O'Mahony, Maeve 1 ; Kapsokefalou, Maria 3 ; Athanasatou, Adelais 3 ; Gallagher, Alison M. 1 1 Nutrition Innovation Centre for Food and Health (NICHE), School of Biomedical Sciences, Ulster University, Coleraine, United Kingdom 2 Nutrition Innovation Centre for Food and Health (NICHE), School of Biomedical Sciences, Ulster University, Coleraine, United Kingdom, European Food Safety Authority, Parma, Italy 3 Department of Food Science and Human Nutrition, Agricultural University of Athens, Athens, Greece
**Publication info:** The Journal of nutrition 150.9 (Sep 1, 2020): 2435-2441.
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 217 of 266

**Diterpene production in Yarrowia**
**Author:** Anonymous
**Publication info:** Broers, Nicolette Jasmijn. Boer, Viktor Marius. Lawrence, Adam G.. US 10273519. 30 April 2019 (20190430). US.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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**Chinese Sweet Leaf Tea (Rubus suavissimus) Mitigates LPS-Induced Low-Grade Chronic Inflammation and Reduces the Risk of Metabolic Disorders in a C57BL/6J Mouse Model**
**Author:** Zhang, Hua; Qi, Ruili; Zeng, Yuhan; Tsao, Rong; Mine, Yoshinori
**Publication info:** Journal of Agricultural and Food Chemistry 68.1 (Jan 8, 2020): 138-146.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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**Influences of non-nutritive sweeteners on ovarian and uterine expression of T1R2 and T1R3 in peripubertal female guinea pigs**
**Author:** Li, Junrong 1 ; Shen, Ting 2 ; Shi, Fangxiong 3 ; Fu, Yan 4 1 College of Agriculture and Bio-engineering, Jinhua Polytechnic, Jinhua, China, College of Animal Science, Zhejiang University, Hangzhou, China, China 2 College of Agriculture and Bio-engineering, Jinhua Polytechnic, Jinhua, China, China 3 College of Animal Science and Technology, Nanjing Agricultural University, Nanjing, China, China 4 College of Animal Science, Zhejiang University, Hangzhou, China, China
**Publication info:** Animal science journal = Nihon chikusan Gakkaiho 91.1 (Jan 2020 - Dec 2020): e13348.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Temporal sweetness and side tastes profiles of 16 sweeteners using temporal check-all-that-apply (TCATA)**
**Author:** Tan, Vicki Wei Kee; Wee, May Sui Mei; Tomic, Oliver; Forde, Ciaran G.
**Publication info:** Food Research International 121 (Jul 2019): 39-47.
ProQuest document link **Databases:** BIOSIS Previews® (1926 - current)

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**Types and Amounts of Nonnutritive Sweeteners Purchased by US Households: A Comparison of 2002 and 2018 Nielsen Homescan Purchases**
**Author:** Dunford, Elizabeth K.; Miles, Donna R.; Ng, Shu Wen; Popkin, Barry
**Publication info:** Journal of the Academy of Nutrition and Dietetics 120.10 (Oct 1, 2020): 1662-1671.
ProQuest document link **Databases:** Embase® (1947 - current)

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**Production of low-calorie apricot nectar sweetened with stevia: Impact on qualitative, sensory, and nutritional profiles**
**Author:** Reale, Anna 1 ; Di Renzo, Tiziana 1 ; Russo, Antonio 1 ; Niro, Serena 2 ; Ottombrino, Antonio 1 ; Pellicano, Mario Paolo 1 1 Institute of Food Science National Research Council ISA-CNR Avellino Italy 2 Department of Agricultural, Environmental and Food Sciences DiAAA University of Molise Campobasso Italy, Environmental and Food Sciences DiAAA University of Molise Campobasso Italy
**Publication info:** Food science & nutrition 8.4 (Mar 3, 2020): 1837-1847.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 223 of 266

**Phytol, (*E*)-nerolidol and spathulenol from *Stevia rebaudiana* leaf essential oil as effective and eco-friendly botanical insecticides against *Metopolophium dirhodum*.**
**Author:** Benelli, G; Pavela, R; Drenaggi, E; Desneux, N; Maggi, F
**Publication info:** Industrial Crops and Products 155 (2020).
ProQuest document link
**Databases:** CAB ABSTRACTS (1910 - current)

Document 224 of 266

**When the Beverage Is Sweet, How Does the Liver Feel?**
**Author:** Xi, Dong 1 ; Kohli, Rohit 1 1 Division of Gastroenterology, Hepatology and Nutrition, Children's Hospital Los Angeles, University of Southern California, 4650 Sunset Blvd, MS 78, Los Angeles, CA, United States rokohli@chla.usc.edu
**Publication info:** Current Treatment Options in Pediatrics 5.4 (Dec 1, 2019): 458-465.
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 225 of 266

**Discovery of NDM-1 inhibitors from natural products**
**Author:** Shi, Cheng 1 ; Chen, Jiaxing 1 ; Xiao, Bin 1 ; Kang, Xinyue 1 ; Lao, Xingzhen 1 ; Zheng, Heng 1 1 School of Life Science and Technology, China Pharmaceutical University, Nanjing 210009, PR China, PR China lao@cpu.edu.cn ; zhengh18@hotmail.com
**Publication info:** Journal of global antimicrobial resistance 18 (Sep 2019): 80-87.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 226 of 266

**A case report on the probable herb-drug interaction between stevia products and etoricoxib relating to declined kidney function**
**Author:** Tangkiatkumjai, M. 1 ; Janma, J. 2 ; Changsirikulchai, S. 2 1 Department of Clinical pharmacy, Faculty of Pharmacy, Srinakharinwirot University, Nakhon Nayok, Thailand 2 Division of Nephrology, Department of Medicine, Faculty of Medicine, Srinakharinwirot University, Nakhon Nayok, Thailand siribha@g.swu.ac.th
**Publication info:** Journal of the Medical Association of Thailand, suppl. Supplement 6 102.7 (Jul 2019): 100-104.
ProQuest document link
**Databases:** Embase® (1947 - current)

Document 227 of 266

**First Report of Septoria sp. Infecting Stevia rebaudiana in France and Screening of Stevia rebaudiana Genotypes for Host Resistance**
**Author:** Hastoy, C 1 ; Le Bihan, Z 1 ; Gaudin, J 2 ; Cosson, P 3 ; Rolin, D 3 ; Schurdi-Levraud, V 3 1 1 INRA, Université de Bordeaux, UMR 1332 Biologie du Fruit et Pathologie, Villenave d'Ornon, France and Oviatis SA, Lacaussade, France, France 2 2 INRA, UMR 1065 Santé et Agroécologie du Vignoble, ISVV, Univ. Bordeaux, Bordeaux Sciences-Agro, Villenave d'Ornon, France, France 3 3 INRA, Université de Bordeaux, UMR 1332 Biologie du Fruit et Pathologie, Villenave d'Ornon, France, France
**Publication info:** Plant disease 103.7 (Jul 2019): 1544-1550.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 228 of 266

**Drying Kinetics and Quality of Dehydrated Cranberries Pretreated by Traditional and Innovative Techniques**
**Author:** Wiktor, A. 1 ; Nowacka, M. 1 ; Anuszewska, A. 1 ; Rybak, K. 1 ; Dadan, M. 1 ; Witrowa-Rajchert, D. 1 1 Dept. of Food Engineering and Process Management, Faculty of Food Sciences, Warsaw Univ. of Life Sciences (WULS-SGGW), Warsaw, Poland
**Publication info:** Journal of food science 84.7 (Jul 1, 2019): 1820-1828.
ProQuest document link
**Databases:** Embase® (1947 - current)

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**Isosteviol Protects Free Fatty Acid- and High Fat Diet-Induced Hepatic Injury via Modulating PKC-β/p66Shc/ROS and Endoplasmic Reticulum Stress Pathways**
**Author:** Yi, Hongwei 1 ; Xu, Deyi 1 ; Wu, Xudong 2 ; Xu, Fang 2 ; Lin, Lin 1 ; Zhou, Huiping 3 1 1 Department of Pharmacology, School of Medicine, Southeast University, Nanjing, China, China 2 2 State Key Laboratory of Pharmaceutical Biotechnology, School of Life Sciences, Nanjing University, Nanjing, China, China 3 3 Department of Microbiology and Immunology, Virginia Commonwealth University and McGuire Veterans Affairs Medical Center, Richmond, Virginia, Virginia
**Publication info:** Antioxidants & redox signaling 30.17 (Jun 10, 2019): 1949-1968.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Contemporary Trends and Habits in the Consumption of Sugar and Sweeteners-A Questionnaire Survey among Poles**
**Author:** Pielak, Marlena 1 ; Czarniecka-Skubina, Ewa 1 ; Trafiałek, Joanna 1 ; Głuchowski, Artur 1 1 Department of Food Gastronomy and Food Hygiene, Faculty of Human Nutrition and Consumer Sciences, Warsaw University of Life Sciences, 02-787 Warsaw, Poland, Poland marlenapielak@gmail.com ; ewa_czarniecka_skubina@sggw.pl ; joanna_trafialek@sggw.pl ; artur_gluchowski@sggw.pl
**Publication info:** International journal of environmental research and public health 16.7 (Apr 1, 2019).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Phylogenomic analysis of UDP-dependent glycosyltransferases provides insights into the evolutionary landscape of glycosylation in plant metabolism**
**Author:** Wilson, Alexander E 1 ; Tian, Li 1 1 Department of Plant Sciences, University of California, Davis, CA, 95616, USA, USA
**Publication info:** The Plant journal : for cell and molecular biology 100.6 (Dec 2019): 1273-1288.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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Document 232 of 266

**High affinity of 4-(4-(dimethylamino)styryl)-N-methylpyridinium transport for assessing organic cation drugs in hepatocellular carcinoma cells**
**Author:** Jinakote, Metee 1 ; Ontawong, Atcharaporn 2 ; Soodvilai, Sunhapas 3 ; Pimta, Jeerawat 3 ; Pasachan, Tipthida 4 ; Chatsudthipong, Varanuj 3 ; Srimaroeng, Chutima 4 1 Faculty of Oriental Medicine, Chiang Rai College, Chiang Rai, 57000, Thailand, Department of Physiology, Faculty of Medicine, Chiang Mai University, Chiang Mai, 50200, Thailand, Thailand 2 Unit of Excellence of Coffee, Division of Physiology, School of Medical Sciences, University of Phayao, Phayao, 56000, Thailand, Thailand 3 Research Center of Transport Protein for Medical Innovation, Department of Physiology, Faculty of Science, Mahidol University, Bangkok, 10400, Thailand, Thailand 4 Department of Physiology, Faculty of Medicine, Chiang Mai University, Chiang Mai, 50200, Thailand, Thailand
**Publication info:** Fundamental & clinical pharmacology 34.3 (Jun 2020): 365-379.
ProQuest document link **Databases:** MEDLINE® (1946 - current)

Document 233 of 266

**Isoniazid-phytochemical conjugation: A new approach for potent and less toxic anti-TB drug development**
**Author:** Swain, Shasank S 1 ; Paidesetty, Sudhir K 2 ; Padhy, Rabindra N 3 ; Hussain, Tahziba 4 1 Division of Microbiology and NCDs, ICMR-Regional Medical Research Centre, Bhubaneswar, India, Central Research Laboratory, Institute of Medical Sciences and SUM Hospital, Siksha 'O' Anusandhan Deemed to be University, Bhubaneswar, India, India 2 Department of Pharmaceutical Chemistry, School of Pharmaceutical Sciences, Siksha 'O' Anusandhan Deemed to be University, Bhubaneswar, India, India 3 Central Research Laboratory, Institute of Medical Sciences and SUM Hospital, Siksha 'O' Anusandhan Deemed to be University, Bhubaneswar, India, India 4 Division of Microbiology and NCDs, ICMR-Regional Medical Research Centre, Bhubaneswar, India, India
**Publication info:** Chemical biology & drug design 96.2 (Aug 2020): 714-730.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Effect of the homogenization process on the sensory and rheological properties in model system**
**Author:** da Silva Pereira, Gerlândia 1 ; Leite, Thiago S 2 ; Schmidt, Flávio L 2 ; Cristianini, Marcelo 2 ; Bolini, Helena M A 1 1 Department of Food and Nutrition (DEPAN), School of Food Engineering (FEA), University of Campinas (UNICAMP), Campinas, Brazil, Brazil 2 Department of Food Technology (DTA), School of Food Engineering (FEA), University of Campinas (UNICAMP), Campinas, Brazil, Brazil
**Publication info:** Journal of texture studies 51.2 (Apr 2020): 352-360.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 235 of 266

**Protective effects of Stevia rebaudiana aqueous extract on experimental unilateral testicular ischaemia/reperfusion injury in rats**
**Author:** Ganjiani, Vahid 1 ; Ahmadi, Nasrollah 2 ; Raayat Jahromi, Alireza 3 1 School of Veterinary Medicine, Shiraz University, Shiraz, Iran, Iran 2 Veterinary Pathology, School of Veterinary Medicine, Shiraz University, Shiraz, Iran, Iran 3 Veterinary Surgery, School of Veterinary Medicine, Shiraz University, Shiraz, Iran, Iran
**Publication info:** Andrologia 52.2 (Mar 2020): e13469.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 236 of 266

**Etoposide Loaded SPION-PNIPAM Nanoparticles Improve the in vitro Therapeutic Outcome on Metastatic Prostate Cancer Cells via Enhanced Apoptosis**
**Author:** Erkisa, Merve 1 ; Ari, Ferda 2 ; Ulku, Irem 3 ; Khodadust, Rouhollah 3 ; Yar, Yasemin 4 ; Yagci Acar, Havva 5 ; Ulukaya, Engin 6 1 Bursa Uludag University, Science and Art Faculty, Department of Biology, 16059, Bursa, Turkey, Istinye University, Faculty of Medicine, Molecular Cancer Research Center, 34010, Istanbul, Turkey, Turkey 2 Bursa Uludag University, Science and Art Faculty, Department of Biology, 16059, Bursa, Turkey, Turkey 3 Koc University, Department of Chemistry, 34450, Istanbul, Turkey, Turkey 4 Koc University, Materials Science and Engineering, 34450, Istanbul, Turkey, Turkey 5 Koc University, Department of Chemistry, 34450, Istanbul, Turkey, Koc University, Materials Science and Engineering, 34450, Istanbul, Turkey, Turkey 6 Istinye University, School of Medicine, Department of Clinical Biochemistry, 34010, Istanbul, Turkey, Turkey
**Publication info:** Chemistry & biodiversity (Sep 11, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Sesquiterpene glucosylation mediated by glucosyltransferase UGT91Q2 is involved in the modulation of cold stress tolerance in tea plants**
**Author:** Zhao, Mingyue 1 ; Zhang, Na 1 ; Gao, Ting 1 ; Jin, Jieyang 1 ; Jing, Tingting 1 ; Wang, Jingming 1 ; Wu, Yi 1 ; Wan, Xiaochun 1 ; Schwab, Wilfried 2 ; Song, Chuankui 1 1 State Key Laboratory of Tea Plant Biology and Utilization, International Joint Laboratory on Tea Chemistry and Health Effects, Anhui Agricultural University, Hefei, Anhui, 230036, China, China 2 State Key Laboratory of Tea Plant Biology and Utilization, International Joint Laboratory on Tea Chemistry and Health Effects, Anhui Agricultural University, Hefei, Anhui, 230036, China, Biotechnology of Natural Products, Technische Universität München, Liesel-Beckmann-Str. 1, Freising, 85354, Germany, Germany
**Publication info:** The New phytologist 226.2 (Apr 2020): 362-372.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 238 of 266

**Mining of UDP-glucosyltrfansferases in licorice for controllable glycosylation of pentacyclic triterpenoids**
**Author:** Zhang, Liang 1 ; Ren, Shichao 1 ; Liu, Xiaofei 1 ; Liu, Xiaochen 1 ; Guo, Fang 1 ; Sun, Wentao 1 ; Feng, Xudong 1 ; Li, Chun 2 1 Institute of Biochemical Engineering, Department of Chemical Engineering, School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing, China, China 2 Institute of Biochemical Engineering, Department of Chemical Engineering, School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing, China, Key Laboratory for Industrial Biocatalysis, Ministry of Education, Department of Chemical Engineering, Tsinghua University, Beijing, China, China
**Publication info:** Biotechnology and bioengineering (Jul 27, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Functional genomics analysis reveals two novel genes required for littorine biosynthesis**
**Author:** Qiu, Fei 1 ; Zeng, Junlan 1 ; Wang, Jing 1 ; Huang, Jian-Ping 2 ; Zhou, Wei 3 ; Yang, Chunxian 1 ; Lan, Xiaozhong 4 ; Chen, Min 5 ; Huang, Sheng-Xiong 2 ; Kai, Guoyin 3 ; Liao, Zhihua 1 1 Chongqing Key Laboratory of Plant Resource Conservation and Germplasm Innovation, SWU-TAAHC Medicinal Plant Joint R&D Centre, School of Life Sciences, Southwest University, Chongqing, 400715, China, China 2 State Key Laboratory of Phytochemistry and Plant Resources in West China, CAS Centre for Excellence in Molecular Plant Sciences, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming, 650201, China, China 3 Laboratory of Medicinal Plant Biotechnology, College of Pharmacy, Zhejiang Chinese Medical University, Hangzhou, Zhejiang, 311402, China, China 4 TAAHC-SWU Medicinal Plant Joint R&D Centre, Tibetan Collaborative Innovation Centre of Agricultural and Animal Husbandry Resources, Xizang Agricultural and Animal Husbandry College, Nyingchi of Tibet, 860000, China, China 5 College of Pharmaceutical Sciences, Key Laboratory of Luminescent and Real-Time Analytical Chemistry (Ministry of Education), Southwest University, Chongqing, 400715, China, China
**Publication info:** The New phytologist 225.5 (Mar 2020): 1906-1914.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

Document 240 of 266

**Can the Creation of Tetraploids Improve the Productivity and Quality of Stevia rebaudiana?**
**Author:** Shock, Clinton C.; Yilma, Solomon
**Publication info:** Hortscience 54.9, Suppl. S (Sep 2019): S76.
ProQuest document link
**Databases:** BIOSIS Previews® (1926 - current)

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**Effects of sunset yellow on proliferation and differentiation of intestinal epithelial cells in murine intestinal organoids**
**Author:** Kong, Xiunan 1 ; Wang, Xiu 1 ; Qin, Yumei 1 ; Han, Jianzhong 1 1 School of Food Science and Biotechnology, Zhejiang Gongshang University, Hangzhou, China, China
**Publication info:** Journal of applied toxicology : JAT (Oct 15, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Optimization of extraction conditions of Angelica archangelica extract and activity evaluation in experimental fibromyalgia**
**Author:** Kaur, Anudeep 1 ; Singh, Nirmal 2 ; Bhatti, Manpreet Singh 3 ; Bhatti, Rajbir 1 1 Department of Pharmaceutical Sciences, Guru Nanak Dev University, Amritsar, India, India 2 Department of Pharmaceutical Sciences and Drug Research, Punjabi University, Patiala, India, India 3 Department of Botanical and Environmental Sciences, Guru Nanak Dev University, Amritsar, India, India
**Publication info:** Journal of food science (Oct 13, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Flax and hempseed oil functional ingredient stabilized by inulin and chia mucilage as a butter replacer in muffin formulations**
**Author:** Gutiérrez-Luna, Katherine 1 ; Ansorena, Diana 2 ; Astiasarán, Iciar 2 1 Department of Nutrition, Food Science and Physiology, Faculty of Pharmacy and Nutrition, Universidad de Navarra, C/Irunlarrea s/n, Pamplona, 31008, Spain, Spain 2 Department of Nutrition, Food Science and Physiology, Faculty of Pharmacy and Nutrition, Universidad de Navarra, C/Irunlarrea s/n, Pamplona, 31008, Spain, Universidad de Navarra, IDISNA - Instituto de Investigación Sanitaria de Navarra, Pamplona, Spain, Spain
**Publication info:** Journal of food science 85.10 (Oct 2020): 3072-3080.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Effects of starch type and concentration on the physicochemical properties of bilayer-stabilized oil-in-water emulsion gels enriched with β-1,3/1,6-D-glucans**
**Author:** Bortnowska, Grażyna 1 ; Bartkowiak, Artur 2 ; Tokarczyk, Grzegorz 1 ; Przybylska, Sylwia 1 ; Iwański, Robert 1 1 Department of Fish, Plant and Gastronomy Technology, West Pomeranian University of Technology in Szczecin, Szczecin, Poland, Poland 2 Center of Bioimmobilisation and Innovative Packaging Materials, West Pomeranian University of Technology in Szczecin, Szczecin, Poland, Poland
**Publication info:** Journal of the science of food and agriculture 100.13 (Oct 2020): 4879-4886.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Recent progress in separation prediction of counter-current chromatography**
**Author:** Guo, Yuru 1 ; Tong, Shengqiang 1 ; Zhang, Keqing 1 ; Yan, Jizhong 1 1 College of Pharmaceutical Science, Zhejiang University of Technology, Hangzhou, P. R. China, P. R. China
**Publication info:** Journal of separation science (Sep 14, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Purple non-sulphur bacteria and plant production: benefits for fertilization, stress resistance and the environment**
**Author:** Sakarika, Myrsini 1 ; Spanoghe, Janne 1 ; Sui, Yixing 1 ; Wambacq, Eva 2 ; Grunert, Oliver 3 ; Haesaert, Geert 2 ; Spiller, Marc 1 ; Vlaeminck, Siegfried E 1 1 Research Group of Sustainable Air, Energy and Water Technology, Department of Bioscience Engineering, University of Antwerp, Groenenborgerlaan 171, 2020, Antwerpen, Belgium, Belgium 2 Department of Plants and Crops, Faculty of Bioscience Engineering, Ghent University, V. Vaerwyckweg 1, 9000, Ghent, Belgium, Belgium 3 Greenyard Horticulture Belgium NV, Skaldenstraat 7a, 9042, Gent, Belgium, Belgium
**Publication info:** Microbial biotechnology 13.5 (Sep 2020): 1336-1365.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**High-performance thin-layer chromatography with atmospheric solids analysis probe mass spectrometry for analysis of gasoline polymeric additives**
**Author:** Beaumesnil, Mathieu 1 ; Mendes Siqueira, Anna Luiza 1 ; Hubert-Roux, Marie 2 ; Loutelier-Bourhis, Corinne 2 ; Afonso, Carlos 2 ; Racaud, Amandine 3 ; Bai, Yang 3 1 Normandie Univ, COBRA, UMR6014 and FR3038, Université de Rouen, INSA de Rouen, CNRS, IRCOF, 1 rue Tesnière, 76821, Mont-Saint-Aignan Cedex, France, TOTAL Marketing Services, Research Center, 69360, Solaize, France, France 2 Normandie Univ, COBRA, UMR6014 and FR3038, Université de Rouen, INSA de Rouen, CNRS, IRCOF, 1 rue Tesnière, 76821, Mont-Saint-Aignan Cedex, France, France 3 TOTAL Marketing Services, Research Center, 69360, Solaize, France, France
**Publication info:** Rapid communications in mass spectrometry : RCM 34 2 (Aug 2020): e8755.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Using inulin-based emulsion gels as fat substitute in salt reduced Bologna sausage**
**Author:** de Souza Paglarini, Camila 1 ; Vidal, Vitor As 1 ; Ribeiro, Wanessa 1 ; Badan Ribeiro, Ana P 1 ; Bernardinelli, Oigres D 2 ; Herrero, Ana M 3 ; Ruiz-Capillas, Claudia 3 ; Sabadini, Edvaldo 2 ; Rodrigues Pollonio, Marise A 1 1 Department of Food Technology, School of Food Engineering, University of Campinas, Campinas, Brazil, Brazil 2 Institute of Chemistry, University of Campinas, Campinas, Brazil, Brazil 3 Institute of Food Science, Technology and Nutrition (ICTAN-CSIC), Madrid, Spain, Spain
**Publication info:** Journal of the science of food and agriculture (Jul 10, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Effects of nonnutritive sweeteners on body weight and BMI in diverse clinical contexts: Systematic review and meta-analysis**
**Author:** Laviada-Molina, Hugo 1 ; Molina-Segui, Fernanda 1 ; Pérez-Gaxiola, Giordano 2 ; Cuello-García, Carlos 3 ; Arjona-Villicaña, Ruy 4 ; Espinosa-Marrón, Alan 1 ; Martinez-Portilla, Raigam Jafet 5 1 Department of Human Nutrition and Metabolism Research, Health Sciences School, Universidad Marista de Merida, Mérida, Mexico, Mexico 2 Evidence-Based Medicine Department, Hospital Pediatrico de Sinaloa, Culiacán, Mexico, Mexico 3 Health Research Methods, Evidence, and Impact, McMaster University, Hamilton, Ontario, Canada, Canada 4 Endocrinology Service, Hospital Regional de Alta Especialidad de la Peninsula de Yucatan, Merida, Mexico, Mexico 5 Nuffield Department of Primary Health Sciences, Radcliffe Observatory Quarter, University of Oxford Centre for Evidence-Based Medicine, Oxford, UK, UK
**Publication info:** Obesity reviews : an official journal of the International Association for the Study of Obesity 21.7 (Jul 2020): e13020.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Tissue-specific study across the stem of Taxus media identifies a phloem-specific TmMYB3 involved in the transcriptional regulation of paclitaxel biosynthesis**
**Author:** Yu, Chunna 1 ; Luo, Xiujun 1 ; Zhang, Chengchao 1 ; Xu, Xinyun 1 ; Huang, Jiefang 1 ; Chen, Yueyue 1 ; Feng, Shangguo 1 ; Zhan, Xiaori 1 ; Zhang, Lei 2 ; Yuan, Huwei 3 ; Zheng, Bingsong 3 ; Wang, Huizhong 1 ; Shen, Chenjia 1 1 College of Life and Environmental Sciences, Hangzhou Normal University, Hangzhou, 311121, China, Zhejiang Provincial Key Laboratory for Genetic Improvement and Quality Control of Medicinal Plants, Hangzhou Normal University, Hangzhou, 311121, China, China 2 Department of Plant Pathology, Washington State University, Pullman, WA, 99164-6430, USA, USA 3 State Key Laboratory of Subtropical Silviculture, Zhejiang A & F University, Hangzhou, 311300, China, Center for Cultivation of Subtropical Forest Resources (CCSFR), Zhejiang A & F University, Hangzhou, 311300, China, China
**Publication info:** The Plant journal : for cell and molecular biology 103.1 (Jul 2020): 95-110.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Effect of sugarcane bagasse addition on physical, chemical, and sensory properties of oat flour and banana cake**
**Author:** Silva, Amanda S 1 ; Correa, Luana G 1 ; Kanai, Rafaela S S 2 ; Shirai, Marianne A 3 1 Departamento Acadêmico de Alimentos, Universidade Tecnológica Federal do Paraná, Londrina, Brazil, Brazil 2 SL Cereais e Alimentos, Mauá da Serra, Brazil, Programa de Pós-graduação em Tecnologia de Alimentos, Universidade Tecnológica Federal do Paraná, Londrina, Brazil, Brazil 3 Programa de Pós-graduação em Tecnologia de Alimentos, Universidade Tecnológica Federal do Paraná, Londrina, Brazil, Brazil
**Publication info:** Journal of texture studies (Jun 9, 2020).
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**The effect of gelatin and thymol-loaded nanostructured lipid carrier on physicochemical, rheological, and sensory properties of sesame paste/date syrup blends as a snack bar**
**Author:** Baqeri, Forod 1 ; Nejatian, Mohammad 1 ; Abbaszadeh, Sepideh 2 ; Taghdir, Maryam 1 1 Health Research Center, Life Style Institute, Baqiyatallah University of Medical Sciences, Tehran, Iran, Iran 2 Health Research Center, Life Style Institute, Baqiyatallah University of Medical Sciences, Tehran, Iran, Faculty of Health, Baqiyatallah University of Medical Sciences, Tehran, Iran, Iran
**Publication info:** Journal of texture studies 51.3 (Jun 2020): 501-510.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**The controversial effects of low-calorie sweeteners**
**Author:** Pepin, Alexandra 1 ; Imbeault, Pascal 1 1 Unité de recherche sur le comportement et le métabolisme, École des Sciences de l'Activité Physique, Faculté des Sciences de la Santé, Université d'Ottawa, 125 rue Université, K1N 6N5 Ottawa, Ontario, Canada, Canada
**Publication info:** Medecine sciences : M/S 36.5 (May 2020): 472-478.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Recent advances in the bioanalytical methods of polyethylene glycols and PEGylated pharmaceuticals**
**Author:** Zhang, Zhi 1 ; Zhang, Yuyao 1 ; Song, Shiwen 1 ; Yin, Lei 2 ; Sun, Dong 3 ; Gu, Jingkai 1 1 Research Center for Drug Metabolism, College of Life Science, Jilin University, Changchun, P. R. China, Beijing Institute of Drug Metabolism, Beijing, P. R. China, P. R. China 2 Research Center for Drug Metabolism, College of Life Science, Jilin University, Changchun, P. R. China, Research Institute of Translational Medicine, The First Bethune Hospital of Jilin University, Changchun, P. R. China, P. R. China 3 Department of Biopharmacy, College of Life Science, Jilin University, Changchun, P. R. China, Key Laboratory of Molecular Pharmacology and Drug Evaluation (Yantai University), Ministry of Education", Yantai University, Yantai, P. R. China, P. R. China
**Publication info:** Journal of separation science 43.9-10 (May 2020): 1978-1997.
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**The expression of TwDXS in the MEP pathway specifically affects the accumulation of triptolide**
**Author:** Zhang, Yifeng 1 ; Zhao, Yujun 2 ; Wang, Jiadian 3 ; Hu, Tianyuan 1 ; Tong, Yuru 4 ; Zhou, Jiawei 1 ; Gao, Jie 5 ; Huang, Luqi 2 ; Gao, Wei 6 1 School of Traditional Chinese Medicine, Capital Medical University, Beijing, 100069, China, School of Pharmaceutical Sciences, Capital Medical University, Beijing, 100069, China, China 2 State Key Laboratory Breeding Base of Dao-di Herbs, National Resource Center for Chinese Materia Medica, Chinese Academy of Chinese Medical Sciences, Beijing, 100700, China, China 3 School of Traditional Chinese Medicine, Capital Medical University, Beijing, 100069, China, China 4 School of Pharmaceutical Sciences, Capital Medical University, Beijing, 100069, China, China 5 School of Traditional Chinese Medicine, Capital Medical University, Beijing, 100069, China, State Key Laboratory Breeding Base of Dao-di Herbs, National Resource Center for Chinese Materia Medica, Chinese Academy of Chinese Medical Sciences, Beijing, 100700, China, China 6 School of Traditional Chinese Medicine, Capital Medical University, Beijing, 100069, China, School of Pharmaceutical Sciences, Capital Medical University, Beijing, 100069, China, Advanced Innovation Center for Human Brain Protection, Capital Medical University, Beijing, 100069, China, China
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**Databases:** MEDLINE® (1946 - current)

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**Trans-resveratrol extraction from peanut sprouts cultivated using fermented sawdust medium and its antioxidant activity**
**Author:** Li, Tong 1 ; Luo, Li 1 ; Kim, Suna 2 ; Moon, Sung-Kwon 1 ; Moon, BoKyung 1 1 Dept. of Food and Nutrition, Chung-Ang Univ., Anseoung-si, Gyeonggi-do, 456-756, Korea, Korea 2 Food and Nutrition in Home Economics, Korea Natl. Open Univ., 169 Dongsung-Dong, Jongno-Gu, Seoul, 110-791, Korea, Korea
**Publication info:** Journal of food science 85.3 (Mar 2020): 639-646.
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**Databases:** MEDLINE® (1946 - current)

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**Free radicals, antioxidants, nuclear factor-E2-related factor-2 and liver damage**
**Author:** Ramos-Tovar, Erika 1 ; Muriel, Pablo 1 1 Laboratory of Experimental Hepatology, Department of Pharmacology, Cinvestav-IPN, Mexico City, Mexico, Mexico
**Publication info:** Journal of applied toxicology : JAT 40.1 (Jan 2020): 151-168.
ProQuest document link
**Databases:** MEDLINE® (1946 - current)

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**Induction of LOX by TGF-β1/Smad/AP-1 signaling aggravates rat myocardial fibrosis and heart failure**
**Author:** Lu, Min 1 ; Qin, Qingzhu 1 ; Yao, Jungong 1 ; Sun, Lin 1 ; Qin, Xinglei 1 1 Department of Cardiology, Henan Provincial People's Hospital, School of Clinical Medicine, Henan University, Zhengzhou, Henan, China, China
**Publication info:** IUBMB life 71.11 (Nov 2019): 1729-1739.
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**Databases:** MEDLINE® (1946 - current)

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**A polyol-stevia blended sugar replacer exhibits low glycemic response among human subjects**
**Author:** Ng, Allan W R 1 ; Loh, K K 2 ; Gupta, Neeraj 3 ; Narayanan, Kumaran 1 1 School of Science, Monash University Malaysia, Jalan Lagoon Selatan Subang Jaya, 47500, Selangor Darul Ehsan, Malaysia, Malaysia kumaran.narayanan@monash.edu 2 Fiatec Biosystem Sdn Bhd, 5 Jalan TPP 1/7, Taman Perindustrian Puchong, 47160 Puchong, Selangor, Malaysia, Malaysia 3 School of Science, Monash University Malaysia, Jalan Lagoon Selatan Subang Jaya, 47500, Selangor Darul Ehsan, Malaysia; Department of Biochemistry, Swami Rama Himalayan University, Swami Ram Nagar, Jolly Grant, Dehradun, 248016, Uttarakhand, India, India
**Publication info:** Clinical nutrition ESPEN 33 (Oct 2019): 39-41.
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**Databases:** MEDLINE® (1946 - current)

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**In ovo injection of flavanone on bone quality characteristics, biochemical parameters and antioxidant enzyme status of blood in daily chicks**
**Author:** Ranjbar, Zahra 1 ; Torki, Mehran 1 ; Karimi Torshizi, Amir Ali 2 1 Department of Animal Science, College of Agriculture and Natural Resources, Razi University, Kermanshah, Iran, Iran 2 Department of Poultry Science, Faculty of Agriculture, Tarbiat Modares University, Tehran, Iran, Iran
**Publication info:** Journal of animal physiology and animal nutrition 103.5 (Sep 2019): 1418-1426.
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**Consumption of non-caloric sweeteners among pregnant Chileans: a cross-sectional study**
**Author:** Fuentealba Arévalo, Fabiola 1 ; Espinoza Espinoza, Jonathan 1 ; Salazar Ibacahe, Carolina 1 ; Durán Agüero, Samuel 1 1 Facultad de Ciencias para el Cuidado de la Salud. Universidad San Sebastián
**Publication info:** Nutricion hospitalaria 36.4 (Aug 26, 2019): 890-897.
ProQuest document link **Databases:** MEDLINE® (1946 - current)

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**4-Methylcatechol, a Flavonoid Metabolite with Potent Antiplatelet Effects**
**Author:** Applová, Lenka 1 ; Karlíčková, Jana 2 ; Warncke, Paul 3 ; Macáková, Kateřina 2 ; Hrubša, Marcel 1 ; Macháček, Miloslav 4 ; Tvrdý, Václav 1 ; Fischer, Dagmar 3 ; Mladěnka, Přemysl 1 1 Department of Pharmacology and Toxicology, Faculty of Pharmacy in Hradec Králové, Charles University, Akademika Heyrovského 1203, 500 05, Hradec Králové, Czech Republic, Czech Republic 2 Department of Pharmaceutical Botany, Faculty of Pharmacy in Hradec Králové, Charles University, Akademika Heyrovského 1203, 500 05, Hradec Králové, Czech Republic, Czech Republic 3 Department of Pharmaceutical Technology and Biopharmacy, Institute of Pharmacy, Friedrich-Schiller-University Jena, Lessingstr. 8, 07743, Jena, Germany, Germany 4 Department of Biochemical Sciences, Faculty of Pharmacy in Hradec Králové, Charles University, Akademika Heyrovského 1203, 500 05, Hradec Králové, Czech Republic, Czech Republic
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**Investigations into the performance of travelling wave enabled conventional and cyclic ion mobility systems to characterise protomers of fluoroquinolone antibiotic residues**
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**Publication info:** Rapid communications in mass spectrometry : RCM 33 2 (Jul 2019): 11-21.
ProQuest document link **Databases:** MEDLINE® (1946 - current)

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**Solubility and Permeability Improvement of Quercetin by an Interaction Between α-Glucosyl Stevia Nanoaggregates and Hydrophilic Polymer**
**Author:** Uchiyama, Hiromasa 1 ; Wada, Yuhei 1 ; Hatanaka, Yuta 1 ; Hirata, Yoshiyuki 2 ; Taniguchi, Masahiko 2 ; Kadota, Kazunori 1 ; Tozuka, Yuichi 1 1 Laboratory of Formulation Design and Pharmaceutical Technology, Osaka University of Pharmaceutical Sciences, 4-20-1 Nasahara, Takatsuki, Osaka 569-1094, Japan, Japan ytozuka@gly.oups.ac.jp 2 Laboratory of Natural Product Research, Osaka University of Pharmaceutical Sciences, 4-20-1 Nasahara, Takatsuki, Osaka 569-1094, Japan, Japan
**Publication info:** Journal of pharmaceutical sciences 108.6 (Jun 2019): 2033-2040.
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**Stevia residue as new precursor of CO2-activated carbon: Optimization of preparation condition and adsorption study of triclosan**
**Author:** Yokoyama, Jéssica T C 1 ; Cazetta, André L 1 ; Bedin, Karen C 1 ; Spessato, Lucas 1 ; Fonseca, Jhessica M 1 ; Carraro, Patrícia S 1 ; Ronix, Amanda 1 ; Silva, Marcela C 1 ; Silva, Taís L 2 ; Almeida, Vitor C 1 1 Laboratory of Environmental and Agrochemistry, Department of Chemistry, State University of Maringá, 5790 Colombo Avenue, Maringá 87020-900, Paraná, Brazil, Brazil vcalmeida@uem.br 2 Federal University of Technology - Paraná, 635 Marcílio Dias Street, Apucarana, Paraná, Brazil, Brazil
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**Prosaposin is a biomarker of mesenchymal glioblastoma and regulates mesenchymal transition through the TGF-β1/Smad signaling pathway**
**Author:** Jiang, Yang 1 ; Zhou, Jinpeng 2 ; Hou, Dianqi 3 ; Luo, Peng 2 ; Gao, Huiling 4 ; Ma, Yanju 5 ; Chen, Yin-Sheng 6 ; Li, Long 2 ; Zou, Dan 7 ; Zhang, Haiying 8 ; Zhang, Ye 7 ; Jing, Zhitao 2 1 Department of Neurosurgery, The First Hospital of China Medical University, Shenyang City, PR China, Department of Neurosurgery, Shanghai General Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, PR China, PR China 2 Department of Neurosurgery, The First Hospital of China Medical University, Shenyang City, PR China, PR China 3 Department of Neurosurgery, Shanghai General Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, PR China, PR China 4 College of Life and Health Sciences, Northeastern University, Shenyang, PR China, PR China 5 Department of Medical Oncology, Cancer Hospital of China Medical University, Shenyang, PR China, PR China 6 Department of Neurosurgery/Neuro-oncology, SunYat-sen University Cancer Center; State Key Laboratory of Oncology in South China; Collaborative Innovation Center for Cancer Medicine, Guangzhou, PR China, PR China 7 The First laboratory of cancer institute, the First Hospital of China Medical University, Shenyang City, PR China, PR China 8 International Education College, Liaoning University of Traditional Chinese Medicine, Shenyang City, PR China, PR China
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