

## HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use VARIZIG® safely and effectively. See full prescribing information for VARIZIG.

**VARIZIG® [Varicella Zoster Immune Globulin (Human)]  
for intramuscular administration only.  
Lyophilized Powder for Solution for Injection**

**Initial U.S. Approval: TBD**

### INDICATIONS AND USAGE

VARIZIG is a Varicella Zoster Immune Globulin (Human) indicated for post-exposure prophylaxis in high risk individuals (1). High risk groups include:

- immunocompromised children and adults,
- newborns of mothers with varicella shortly before or after delivery,
- premature infants,
- infants less than one year of age,
- adults without evidence of immunity,
- pregnant women.

VARIZIG administration is intended to reduce the severity of varicella.

### DOSAGE AND ADMINISTRATION

**Intramuscular use only.**

Dosing of VARIZIG is based on body weight. Administer a single dose of VARIZIG intramuscularly as recommended in the following table (2.1):

Weight of Patient (kg)	Dose (IU)	Number of Vials
≤2.0	62.5	0.5
2.1–10.0	125	1
10.1–20.0	250	2
20.1–30.0	375	3
30.1–40.0	500	4
>40.1	625	5

Reconstitute prior to administration with the supplied Sterile Diluent only. Discard the remaining sterile diluents (2.2). The intramuscular dose should be divided and administered in two sites, dependent on patient size. Do not exceed 3 mL per injection site. (2.3).

### DOSAGE FORMS AND STRENGTHS

VARIZIG is supplied as a lyophilized powder for solution for intramuscular injection and is available in a single-use vial of 125 IU. VARIZIG is accompanied by a vial of 8.5 mL of Sterile Diluent used for reconstitution. Each vial of VARIZIG is reconstituted with 1.25 mL of Sterile Diluent (3).

### CONTRAINDICATIONS

- History of anaphylactic or severe systemic reactions to human globulins (4).
- IgA-deficient patients with antibodies against IgA and a history of hypersensitivity (4).

### WARNINGS AND PRECAUTIONS

- Thrombotic events (5.1)
- Coagulation disorders (5.2)
- Hypersensitivity (5.3)
- Transmissible infectious agents (5.4)

### ADVERSE REACTIONS

Most common adverse reactions from clinical trials are pain at the injection site (2%) and headache (2%) (6).

To report SUSPECTED ADVERSE REACTIONS, contact Cangene Corporation at 1-800-768-2304 or FDA at 1-800-FDA-1088 or [www.fda.gov/medwatch](http://www.fda.gov/medwatch).

### DRUG INTERACTIONS

- Efficacy of live attenuated virus vaccines may be impaired by immune globulin administration; revaccination may be necessary (7).

### USE IN SPECIFIC POPULATIONS

- Pregnancy: Use only if clearly needed (8.1)
- Nursing Mothers: Caution should be exercised (8.3)

See 17 for PATIENT COUNSELING INFORMATION

Revised: [12/2012]

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1 **1 INDICATIONS AND USAGE**

2 VARIZIG<sup>®</sup> [Varicella Zoster Immune Globulin (Human)] is indicated for post-exposure  
3 prophylaxis of varicella in high risk individuals. High risk groups include:

- 4 • immunocompromised children and adults,
- 5 • newborns of mothers with varicella shortly before or after delivery,
- 6 • premature infants,
- 7 • neonates and infants less than one year of age,
- 8 • adults without evidence of immunity,
- 9 • pregnant women.

10 VARIZIG administration is intended to reduce the severity of varicella.

11 Administer VARIZIG as soon as possible following varicella zoster virus (VZV) exposure,  
12 ideally within 96 hours for greatest effectiveness.

- 13 • There is no convincing evidence that VARIZIG reduces the incidence of chickenpox  
14 infection after exposure to VZV.
- 15 • There is no convincing evidence that established infections with VZV can be  
16 modified by VARIZIG administration.
- 17 • There is no indication for the prophylactic use of VARIZIG in immunodeficient  
18 children or adults when there is a past history of varicella, unless the patient is  
19 undergoing bone marrow transplantation.

20 **2 DOSAGE AND ADMINISTRATION**

21 **For intramuscular use only.**

22 **2.1 Dosage**

23 Dosing of VARIZIG is based on body weight. Administer a single dose of VARIZIG  
24 intramuscularly as recommended in Table 1.

25 The minimum dose is 62.5 International Units (IU) for small infants under two kilograms  
26 body weight; the maximum dose of 625 IU should be administered for all patients greater  
27 than 40 kilograms in weight.

28 **Table 1 VARIZIG Dose and Volume of Administration**

Weight of Patient		VARIZIG Dose		Volume to Administer* (milliliters)
Kilograms	Pounds	IU	Number of Vials	
≤2.0	≤4.4	62.5	0.5	0.6
2.1–10.0	4.5–22.0	125	1	1.2
10.1–20.0	22.1–44.0	250	2	2.4
20.1–30.0	44.1–66.0	375	3	3.6
30.1–40.0	66.1–88.0	500	4	4.8
≥40.1	≥88.1	625	5	6.0

\*Volume of VARIZIG to be administered after reconstitution.

29

30 Consider a second full dose of VARIZIG for high risk patients who have additional  
31 exposures to varicella greater than three weeks after initial VARIZIG administration.

32 **2.2 Reconstitution**

33 Reconstitute VARIZIG according to Table 2. Only use the accompanying Sterile Diluent  
34 with aseptic technique throughout. Reconstitute shortly before use.

35 **Table 2 Recommendations for Reconstitution of VARIZIG**

Route of Administration	Number of VARIZIG Vials	Volume of Sterile Diluent	Concentration of Reconstituted VARIZIG
Intramuscular	1 vial (125 IU)	1.25 milliliters	100 IU/milliliter

36

37 To reconstitute:

- 38 1. Remove caps from the Sterile Diluent and VARIZIG vials.
- 39 2. Wipe exposed central portion of each rubber stopper with suitable disinfectant.
- 40 3. Withdraw 1.25 milliliter of the Sterile Diluent using a suitable syringe and needle.
- 41 4. Inject diluent slowly into the VARIZIG vial at an angle so that the liquid is directed  
42 onto the inside glass wall of the vial containing the freeze-dried pellet.
- 43 5. Wet pellet by gently tilting and inverting the vial. Avoid frothing. Gently swirl  
44 upright vial until dissolved (less than ten minutes). Do not shake.
- 45 • Inspect VARIZIG visually for particulate matter and discoloration prior to  
46 administration.
- 47 • Do not use if turbid and/or discoloration is observed.
- 48 • Reconstituted product can be stored for up to 12 hours at 2 to 8°C (36 to 46°F) prior to  
49 use.
- 50 • Do not freeze. Solutions that have been frozen should not be used.

51 VARIZIG is for single use only. Partially used vials, including the remaining Sterile Diluent,  
52 should be discarded.

### 53 **2.3 Administration**

#### 54 **For intramuscular use only.**

55 Divide the intramuscular dose and administer in two or more injection sites, depending on  
56 patient size. Do not exceed 3 milliliters per injection site.

57 Inject into the deltoid muscle or the anterolateral aspects of the upper thigh. Due to the risk of  
58 sciatic nerve injury, do not use the gluteal region as a routine injection site. If the gluteal  
59 region is used, only use the upper, outer quadrant.

60 To prevent the transmission of infectious agents from one person to another, use a new  
61 disposable sterile syringe and needle for each individual patient.

## 62 **3 DOSAGE FORMS AND STRENGTHS**

63 VARIZIG is supplied as a sterile lyophilized powder for solution for intramuscular injection  
64 and is available in a single-use vial of 125 IU. VARIZIG is accompanied by a vial containing  
65 8.5 milliliters of Sterile Diluent for reconstitution. Each 125 IU vial of VARIZIG contains  
66 less than 250 milligrams of total protein, mostly human immunoglobulin G (IgG). VARIZIG  
67 contains no preservative and is intended for single use only. VARIZIG does not contain  
68 mercury.

## 69 **4 CONTRAINDICATIONS**

- 70 • Individuals known to have anaphylactic or severe systemic (hypersensitivity)  
71 reactions to human immune globulin preparations should not receive VARIZIG.
- 72 • IgA-deficient patients with antibodies against IgA and a history of hypersensitivity  
73 may have an anaphylactoid reaction.
- 74 • VARIZIG contains less than 40 micrograms per milliliter of IgA.

## 75 **5 WARNINGS AND PRECAUTIONS**

### 76 **5.1 Thrombotic Events**

77 Thrombotic events may occur during or following treatment with immune globulin products  
78 (1, 2, 3). Patients at risk include those with a history of atherosclerosis, multiple  
79 cardiovascular risk factors, advanced age, impaired cardiac output, coagulation disorders,  
80 prolonged periods of immobilization, and/or known/suspected hyperviscosity. Consider  
81 baseline assessment of blood viscosity in patients at risk for hyperviscosity including those  
82 with cryoglobulins, fasting chylomicronemia/markedly high triacylglycerols (triglycerides),  
83 or monoclonal gammopathies.

84 **5.2 Coagulation Disorders**

85 Administer VARIZIG intramuscularly only. In patients who have severe thrombocytopenia  
86 or any coagulation disorder that would contraindicate intramuscular injections, only  
87 administer VARIZIG if the expected benefits outweigh the potential risks.

88 **5.3 Hypersensitivity**

89 Severe hypersensitivity reactions may occur following VARIZIG administration. Administer  
90 VARIZIG in a setting with appropriate equipment, medication and personnel trained in the  
91 management of hypersensitivity, anaphylaxis and shock. In the case of hypersensitivity,  
92 discontinue administration of VARIZIG immediately and provide appropriate treatment.

93 VARIZIG contains trace amounts of IgA (less than 40 micrograms per milliliter). Patients  
94 with known antibodies to IgA have a greater risk of severe hypersensitivity and anaphylactic  
95 reactions. VARIZIG is contraindicated in IgA deficient patients with antibodies against IgA  
96 and history of hypersensitivity reactions [see 4 *CONTRAINDICATIONS*].

97 **5.4 Transmissible Infectious Agents**

98 Because VARIZIG is made from human plasma, it may carry a risk of transmitting infectious  
99 agents, e.g., viruses, the variant Creutzfeldt-Jakob disease (vCJD) agent and, theoretically,  
100 the Creutzfeldt-Jakob disease (CJD) agent. The plasma donors are screened for the presence  
101 of certain infectious agents and the manufacturing process for VARIZIG includes measures  
102 to inactivate and remove certain viruses [see 11 *DESCRIPTION*]. Despite these measures,  
103 products derived from human plasma can still potentially transmit diseases. No cases of  
104 transmission of viral diseases, vCJD or CJD have been associated with the use of VARIZIG.

105 Report all infections thought by a physician to have been transmitted by VARIZIG to  
106 Cangene Corporation at 1-800-768-2304. Discuss the risks and benefits of this product with  
107 the patient before administering it to the patient [see 17 *PATIENT COUNSELING*  
108 *INFORMATION*].

109 **6 ADVERSE REACTIONS**

110 The most common adverse drug reactions observed in clinical trials for all subjects and  
111 patients are the following:

- 112 • injection site pain (2%)
- 113 • headache (2%).

114 Less common adverse drug reactions reported include the following:

- 115 • chills,
- 116 • fatigue,
- 117 • rash and
- 118 • nausea.

119 The following serious adverse reaction is described elsewhere [5 *WARNINGS AND*  
120 *PRECAUTIONS, 6.1 Clinical Trial Experience*]:

- 121 • thrombosis.

## 122 **6.1 Clinical Trial Experience**

123 Because clinical trials are conducted under widely varying conditions, adverse reaction rates  
124 observed in the clinical trials of a drug cannot be directly compared to rates in the clinical  
125 trials of another drug and may not reflect the rates observed in practice.

126 Three hundred and seventy seven high risk individuals received VARIZIG intramuscularly in  
127 two clinical trials which included pregnant women, infants and immunocompromised  
128 pediatric and adult patients. The highest incidence of adverse reactions occurred in pregnant  
129 women (n=90), including injection site pain (9%), headache (4%), chills (2%) and fatigue  
130 (2%). All other adverse reactions occurred in 1% or less of clinical trial subjects within each  
131 high risk group. A single incidence of serum sickness (approximately one in 400 patients  
132 treated with VARIZIG) was observed in an immunocompromised adolescent patient.

133 There were six reported adverse events related to the coagulation system (one deep vein  
134 thrombosis) in 372 subjects in the open-label, Expanded Access Protocol (EAP); the study  
135 was not designed to differentiate between adverse events attributed to the underlying medical  
136 condition and adverse reactions to VARIZIG.

## 137 **7 DRUG INTERACTIONS**

138 The passive transfer of antibodies with immune globulin administration may impair the  
139 efficacy of live attenuated virus vaccines such as measles, rubella, mumps and varicella.  
140 Defer vaccination with live virus vaccines until approximately three months after VARIZIG  
141 administration. Inform the immunizing physician of recent therapy with VARIZIG so that  
142 appropriate measures can be taken [see *17 PATIENT COUNSELING INFORMATION*].

## 143 **8 USE IN SPECIFIC POPULATIONS**

### 144 **8.1 Pregnancy**

145 Pregnancy category C. Animal reproduction studies have not been conducted with  
146 VARIZIG. It also is not known whether VARIZIG can cause fetal harm when administered  
147 to a pregnant woman or can affect reproduction capacity. VARIZIG should be given to a  
148 pregnant woman only if clearly needed.

### 149 **8.3 Nursing Mothers**

150 It is not known whether VARIZIG is excreted in human milk. Because many drugs are  
151 excreted in human milk, caution should be exercised when VARIZIG is administered to a  
152 nursing mother.

153 **8.4 Pediatric Use**

154 The dosing recommendations in the treatment of pediatric patients are by body weight [see 2  
155 *DOSAGE AND ADMINISTRATION*].

156 The safety and effectiveness of VARIZIG have been evaluated for post-exposure prophylaxis  
157 in the VARIZIG expanded access clinical trial in 265 pediatric patients, including  
158 immunocompromised pediatric patients:

- 159 • 70 preterm newborns and infants
- 160 • 38 term newborns
- 161 • 28 infants and toddlers
- 162 • 99 children and
- 163 • 30 adolescents.

164 In the EAP, follow up data were available for 81 VARIZIG treatments in 78 infants  
165 (including newborns, pre-term infants, and infants <1 year old). Two severe infections were  
166 reported, with pox count >100. One of these patients also developed probable varicella  
167 encephalitis.

168 **8.5 Geriatric Use**

169 Clinical studies of VARIZIG administered intramuscularly for post-exposure prophylaxis did  
170 not include sufficient numbers of geriatric subjects (aged 65 and over) to determine whether  
171 they respond differently from younger subjects.

172 Use caution when administering VARIZIG to patients age 65 and over who are judged to be  
173 at increased risk of thrombotic events [see 5 *WARNINGS AND PRECAUTIONS*]. Do not  
174 exceed recommended doses and administer VARIZIG intramuscularly only.

175 **8.6 Immunocompromised Patients**

176 In the EAP, eight immunocompromised subjects developed clinical varicella, and none  
177 developed varicella pneumonitis; however five are reported to have received concomitant  
178 acyclovir.

179 **10 OVERDOSAGE**

180 Manifestations of an overdose of VARIZIG administered intramuscularly are expected to be  
181 pain and tenderness at the injection site.

182 **11 DESCRIPTION**

183 VARIZIG [Varicella Zoster Immune Globulin (Human)] is a solvent/detergent-treated sterile  
184 lyophilized preparation of purified human immune globulin G (IgG) containing antibodies to  
185 varicella zoster virus (anti-VZV). VZV is the causative agent of chickenpox. VARIZIG is  
186 prepared from plasma donated by healthy, screened donors with high titers of antibodies to  
187 VZV, which is purified by an anion-exchange column chromatography manufacturing

188 method. This donor selection process includes donors with high anti-VZV titers due to recent  
189 natural infection by VZV, or due to recurrent zoster infection (shingles).

190 VARIZIG is supplied as a kit containing a single use vial of VARIZIG (lyophilized powder  
191 for solution for intramuscular injection with a potency of 125 IU) and a vial of 8.5 milliliters  
192 Sterile Diluent, which is used for reconstitution of the product prior to administration.

193 VARIZIG is intended for single use and should be administered intramuscularly [see 2  
194 *DOSAGE AND ADMINISTRATION*].

195 The product potency is expressed in IU by comparison to the World Health Organization  
196 (WHO) international reference preparation for anti-VZV immune globulin. Each vial  
197 contains 125 IU of anti-VZV. The lyophilized VARIZIG is formulated as 0.04 M sodium  
198 chloride, 0.1 M glycine and 0.01% polysorbate 80. The accompanying Sterile Diluent  
199 contains 0.8% sodium chloride and 10 mM sodium phosphate. The reconstituted VARIZIG  
200 has a pH of 7 and contains no preservative.

201 VARIZIG has not been tested for the presence of anti-Protein S antibodies that have been  
202 reported to arise transiently after VZV infection (4); however, it is assumed that the  
203 requirement that donors be healthy will alleviate this concern.

204 The source plasma used in the manufacture of this product was tested by FDA licensed  
205 nucleic acid testing (NAT) for human immunodeficiency virus-1 (HIV-1), hepatitis B virus  
206 (HBV) and hepatitis C virus (HCV) and found to be negative. Plasma also was tested by in-  
207 process NAT for hepatitis A virus (HAV) and parvovirus B19 (B19) via minipool testing; the  
208 limit for B19 in the manufacturing pool is set not to exceed  $10^4$  IU of B19 DNA per  
209 milliliter.

210 The manufacturing process contains two steps implemented specifically for virus clearance.  
211 The solvent/detergent step (using tri-n-butyl phosphate and Triton X-100) is effective in the  
212 inactivation of enveloped viruses, such as HBV, HCV and HIV-1. Virus filtration, using a  
213 Planova 20N virus filter, is effective for the removal of viruses based on their size, including  
214 some non-enveloped viruses. These two viral clearance steps are designed to increase  
215 product safety by reducing the risk of transmission of enveloped and non-enveloped viruses.  
216 In addition to these two specific steps, the process step of anion-exchange chromatography  
217 was identified as contributing to the overall viral clearance capacity for small non-enveloped  
218 viruses.

219 The inactivation and reduction of known enveloped and non-enveloped model viruses were  
220 validated in laboratory studies as summarized in Table 3. The viruses employed for spiking  
221 studies were selected to represent those viruses that are potential contaminants in the product,  
222 and to represent a wide range of physiochemical properties in order to challenge the  
223 manufacturing process's ability for viral clearance in general.

224 **Table 3 Virus Reduction Values (Log<sub>10</sub>) Obtained through Validation Studies**

Enveloped	Enveloped			Non-Enveloped			
Genome	RNA		DNA	RNA		DNA	
Virus	HIV-1	BVDV	PRV	HAV	EMC	MMV	PPV
Family	retro	flavi	herpes	picorna		parvo	
Size (nm)	80–100	50–70	120–200	25–30	30	20–25	18–24
Anion Exchange Chromatography (partitioning)	Not evaluated			2.3	n.e.	3.4	n.e.
20N Filtration (size exclusion)	≥4.7	≥3.5	≥5.6*	n.e.	4.8	n.e.	4.1
Solvent/Detergent (inactivation)	≥4.7	≥7.3	≥5.5	Not evaluated			
<b>Total Reduction (log<sub>10</sub>)</b>	<b>≥9.4</b>	<b>≥10.8</b>	<b>≥11.1</b>	<b>2.3</b>	<b>4.8</b>	<b>3.4</b>	<b>4.1</b>

\*The PRV was retained by the 0.1 µm pre-filter during the virus validation. Since manufacturing employs a 0.1 µm pre-filter before the 20N filter, the claim of ≥5.6 reduction is considered applicable.

Abbreviations:

HIV-1: human immunodeficiency virus-1; relevant virus for human immunodeficiency virus-1 and model for HIV-2

BVDV: bovine viral diarrhea virus; model virus for hepatitis C virus (HCV) and West Nile virus (WNV)

PRV: pseudorabies virus; model for large enveloped DNA viruses, including herpes

HAV: human hepatitis A virus; relevant virus for HAV and model for small non-enveloped viruses in general

EMC: encephalomyocarditis virus; model for HAV and for small non-enveloped viruses in general

MMV: murine minute virus; model for human parvovirus B19 and for small non-enveloped viruses in general

n.e.: not evaluated

225 **12 CLINICAL PHARMACOLOGY**

226 **12.1 Mechanism of Action**

227 VARIZIG provides passive immunization for non-immune individuals exposed to VZV,  
228 reducing the severity of varicella infections (5).

229 **12.3 Pharmacokinetics**

230 In a comparative pharmacokinetic clinical trial, 35 volunteers were administered an  
231 intramuscular dose of 12.5 IU/kg of VARIZIG (n=18) or the comparator product VZIG™  
232 (n=17). The dose of 12.5 IU/kg of VZIG or VARIZIG given to the subjects was based on the  
233 assumption that the potency was similar for both products. For the bioequivalence analysis, a  
234 potency correction factor was applied (concentrations of VARIZIG were multiplied by 2.3)  
235 to account for higher measured potency of the comparator product. The mean peak  
236 concentration (C<sub>max</sub>) of varicella antibodies occurred within five days of administration for

237 both products (Table 4). In the trial, baseline levels of anti-VZV antibodies ranged from 0 to  
 238 720 mIU/mL, therefore baseline levels were taken into account for pharmacokinetic  
 239 calculations, to better represent the indicated population. After potency correction, baseline  
 240 correction, and exclusion of subjects with baseline values of anti-VZV antibody levels of  
 241 >200 mIU/mL, the two products were pharmacokinetically comparable.

242 **Table 4 Pharmacokinetic Comparison of VARIZIG and VZIG**

PK Parameters*	VARIZIG	VZIG	Ratio 90% Confidence Interval
AUC <sub>0-28</sub> (mIU×Day/mL)	2472 ± 970	2347 ± 535	84.1–124.6
AUC <sub>0-84</sub> (mIU×Day/mL)	4087 ± 1620	3916 ± 964	82.0–125.6
C <sub>max</sub> (mIU/mL)	136 ± 66	138 ± 22	76.5–112.8
T <sub>max</sub> (Days)	4.5 ± 2.8	3.3 ± 1.5	Not applicable
t <sub>1/2</sub> ** (Days)	26.2 ± 4.6	23.1 ± 8.6	Not applicable
CL/F (mL/Day)	0.204 ± 0.045	0.199 ± 0.087	Not applicable

\* Potency and subgroup analysis were implemented for pharmacokinetic calculations. Study subjects with elevated baseline anti-VZV levels (>200 mIU/mL) from both treatment groups were excluded from pharmacokinetic calculations.

\*\* The half-life is expected to vary from patient to patient.

## 243 14 CLINICAL STUDIES

### 244 14.1 Pregnant Women Exposed to Varicella Zoster Virus

245 A randomized, open-label, multicenter, active controlled clinical trial was conducted in  
 246 60 pregnant women without immunity to VZV as confirmed by a latex agglutination test.  
 247 Patients were stratified on the basis of time from first exposure to varicella as follows:

- 248 • one to four days post-exposure and
- 249 • five to 14 days post-exposure.

250 The women were randomized into one of three study arms as follows:

- 251 • a single intravenous dose of 125 IU/10 kg body weight to a maximum dose of 625 IU  
 252 of VARIZIG
- 253 • a single intramuscular dose of 125 IU/10 kg body weight to a maximum dose of  
 254 625 IU of VARIZIG, or
- 255 • a single intramuscular dose of 125 IU/10 kg body weight to a maximum dose of  
 256 625 IU of VZIG (licensed comparator product).

257 Patients were followed for 42 days.  
258 Incidence of clinical varicella was similar across all treatment groups with an overall  
259 incidence of 33%; however, in the subset of 28 subjects with more than 24 hours exposure to  
260 varicella, the incidence of clinical varicella in the combined treatment groups was 64%.  
261 Mean weighted constitutional illness scores (CIS) (6) were similar across all groups and none  
262 of the subjects had serious complications of varicella. The small number of subjects in each  
263 treatment stratum and the lack of agreed upon pre-specified hypothesis testing precluded  
264 formal statistical comparisons between groups.

## 265 **15 REFERENCES**

- 266 1. Dalakas MC. High-dose intravenous immunoglobulin and serum viscosity: risk of  
267 precipitating thromboembolic events. *Neurology*. 1994; 44:223-6.
- 268 2. Woodruff RK, Grigg AP, Firkin FC, Smith IL. Fatal thrombotic events during treatment  
269 of autoimmune thrombocytopenia with intravenous immunoglobulin in elderly patients.  
270 *Lancet*. 1986; 2:217-8.
- 271 3. Wolberg AS, Kon RH, Monroe DM Hoffman M. Coagulation factor XI is a contaminant  
272 in intravenous immunoglobulin preparations. *Am J Hematol*. 2000; 65:30-4.
- 273 4. Josephson C, Nuss R, Jacobson L, Hacker MR, Murphy J, Weinberg A et al. The  
274 Varicella-Autoantibody Syndrome. *Pediatr Res*. 2001; 50:345-52.
- 275 5. CDC. Prevention of varicella. Recommendations of the Advisory Committee on  
276 Immunization Practices (ACIP). *MMWR*. 2007; 56(No. RR-4):1-30.
- 277 6. Koren G, Money D, Boucher M, Aoki F, Petric M, Innocencion G et al. Serum  
278 concentrations, efficacy, and safety of a new, intravenously administered varicella zoster  
279 immune globulin in pregnant women. *J Clin Pharmacol*. 2002; 42(3):267-74.

## 280 **16 HOW SUPPLIED/STORAGE AND HANDLING**

### 281 **16.1 How Supplied**

282 NDC XXXXX-XXXX-X: VARIZIG [Varicella Zoster Immune Globulin (Human)] is  
283 supplied as a kit in a carton box containing approximately 125 IU of anti-VZV supplied  
284 freeze-dried in a 6 mL type 1 glass tubing vial fitted with a 20 mm rubber lyophilization  
285 stopper and a 20 mm flip-off seal, one single dose vial of Sterile Diluent, non-pyrogenic for  
286 reconstitution of VARIZIG and a package insert.

### 287 **16.2 Storage and Handling**

288 Store VARIZIG at 2 to 8°C (36 to 46°F). Do not freeze. Do not use after expiration date. Use  
289 the product within 12 hours of reconstitution if stored at 2 to 8°C.

290 **17 PATIENT COUNSELING INFORMATION**

291 Inform patients of the following:

- 292 • VARIZIG is intended to reduce the severity of chickenpox infections. Please see your  
293 doctor if you develop the signs and symptoms of varicella.
- 294 • VARIZIG is prepared from human plasma and therefore, may contain infectious  
295 agents such as viruses that can cause disease.
- 296 • The risk that products derived from human plasma will transmit an infectious agent  
297 has been reduced by screening plasma donors for prior exposure to certain viruses, by  
298 testing for the presence of certain current virus infections, and by inactivating and/or  
299 removing certain viruses during manufacturing.
- 300 • Despite these measures, products derived from human plasma can still potentially  
301 transmit disease.
- 302 • There is also the possibility that unknown infectious agents may be present in such  
303 products.

304 Tell patients that persons known to have severe, potentially life-threatening reactions to  
305 human immune globulin products should not receive VARIZIG or any other immune  
306 globulin products unless the risk has been justified.

307 Tell patients that persons who are deficient in IgA may have the potential for developing  
308 anti-IgA antibodies and have severe potentially life threatening allergic reactions.

- 309 • In the case of allergic or anaphylactic reaction, administration should be stopped  
310 immediately.
- 311 • In the case of shock, the current medical standards for treatment of shock should be  
312 administered.

313 Inform patients that administration of immune globulin may interfere with the response to  
314 live virus vaccines (e.g. measles, mumps, rubella and varicella), and instruct them to notify  
315 their immunizing physician of recent therapy with VARIZIG.

316

317 Manufactured by:

318 Cangene Corporation

319 Winnipeg, Canada R3T 5Y3

320 U.S. License No. 1201

321