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|  | ***Put it in Practice*** |

**IVIg and SCIg Immunoglobulin Therapy Product Options**

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| ***IVIg Products*** | **Form** | **Indication** | **pH (after reconstitution)** | **Concentration** | **IgA Content** | **% IgG** | **Na Content (@ 5%)** | **Diluent** |
| **Bivigam®** | Liquid | PIDD | 4.0 - 4.6 | 10% | ≤ 200 µg/mL | ≥ 96% | 0.100 – 0.140 M sodium chloride | N/A |
| **Carimune® NF** | Lyophilized | PIDD, ITP | 6.6 ± 0.2 | 3, 6, 9 or 12% | 720 µg/mL | ≥ 96% | < 20 mg NaCL/gm protein | Sterile Water, 5% Dextrose or 0.9% NaCl |
| **Flebogamma® 5% DIF** | Liquid | PIDD | 5 – 6 | 5% | < 50 µg/mL | ≥ 97% | < 3.2 mmol/L | N/A |
| **Flebogamma® 10% DIF** | Liquid | PIDD | 5 – 6 | 10% | < 100 µg/mL | ≥ 97% | Trace amounts | N/A |
| **Gammagard® S/D IgA <1 µg/mL** | Lyophilized | PIDD, ITP, CLL, Kawasaki Disease | 6.8 ± 0.4 | 5% (for 10%, use half of supplied diluent) | < 1 µg/mL | ≥ 90% | 0.85% with 5% | Sterile Water (96 mL for 5 gm 5%, 192 mL for 10 gm 5%) |
| **Gammagard® Liquid** | Liquid | PIDD, MMN | 4.6 – 5.1 | 10% | 37 µg/mL | ≥ 98% | Non-detectable | N/A |
| **Gammaked™** | Liquid | PIDD, ITP, CIDP | 4 – 4.5 | 10% | 46 µg/mL | ≥ 98% | 1.3 mmol/L | N/A |
| **Gammaplex®** | Liquid | PIDD | 4.8 – 5 | 5% | < 10 µg/mL | > 95% | 0.3 g NaCL | N/A |
| **Gamunex®-C** | Liquid | PIDD, ITP, CIDP | 4 – 4.5 | 10% | 46 µg/mL | ≥ 98% | 1.3 mmol/L | N/A |
| **Octagam® 5%** | Liquid | PIDD | 5.1 – 6 | 5% | ≤ 2 µg/mL | ≥ 96% | < 30 mmol/L | N/A |
| **Octagam® 10%** | Liquid | ITP | 4.5 – 5 | 10% | ≤ 2 µg/mL | ≥ 96% | < 30 mmol/L | N/A |
| **Privigen®** | Liquid | PIDD, ITP | 4.6 – 5 | 10% | < 25 µg/mL | ≥ 96% | Trace amounts | N/A |

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| ***IVIg Products*** | **Osmality (mOsm/L)** | **Initial infusion rate** | **Sugar content** | **Shelf life** | **Storage requirements** |
| **Bivigam®** | ≤ 510 mOsm/kg | 0.5 mg/kg/min for the first 10 minutes | No sugar added | Until expiration date on vial packaging at 2 to 8°C (36 to 46°F) | Refrigerate between 2 to 8°C (36 to 46°F). Do not freeze or heat. |
| **Carimune® NF** | * Sterile water: 192-768 (3-12%)
* 5% dextrose: 444-1020 (3-12%)
* 0.9% NaCl: 498-1074 (3-12%)
 | See **Table 1** below | 1.67 gm sucrose | 24 months | Up to 30°C (86°F) |
| **Flebogamma® 5% DIF** | 240 – 370 | Initial rate of 0.01 mL/kg body weight/min. If tolerated during first 30 minutes, can be gradually increased to a max of 0.1 mL/kg/min. | 5 g D-sorbitol (as stabilizer) in 100 mL of water for injection | 24 months | Room temperature: 2–25°C (36 to 77°F). Do not freeze. |
| **Flebogamma® 10% DIF** | 240 – 370 | 0.01 mL/kg/min (1 mg/kg/min). If tolerated, increase to 0.08 mL/kg/min (8 mg/kg/min). | 5 g D-sorbitol (as stabilizer) in 100 mL of water for injection | 24 months | Room temperature: 2–25°C (36 to 77°F). Do not freeze. |
| **Gammagard® S/D IgA <1 µg/mL** | 636 (5%), 1250 (10%) | * 5 solution%: 0.5 mL/kg/hr (0.8 mg/kg/min). Can gradually increase every 30 minutes to a rate of 4 mL/kg/hr.
* 10% solution: If 4 mL/kg/hr is tolerated, can increase to 10% solution starting at 0.5 mL/kg/hr to a max of 8mL/kg/hr.
 | 20 mg/mL glucose with 5% | 24 months | Room temperature: up to 25ºC (77ºF). Freezing should be avoided to prevent the diluent bottle from breaking. |
| **Gammagard® Liquid** | 240 – 300 | * PIDD: 0.5 mL/kg/hr (0.8 mg/kg/min) for 30 mins
* MMN: 0.5 mL/kg/hr (0.8 mg/kg/min).
 | No added sugars | 36 months (refrigerated). 12 months (at room temperature within the first 24 months of date of manufacture) | Refrigeration: 2–8°C (36–46°F). Room temperature: up to 25°C (77°F). Do not freeze. |
| **Gammaked™** | 258 | * ITP: 1 mg/kg/min.
* PIDD: 1 mg/kg/min.
* CIDP: 2 mg/kg/min.
 | No added sugars | 36 months (refrigerated). 6 months (at room temperature for up to 6 months anytime during 36 month shelf life). | Refrigeration: 2–8°C (36–46°F). Room temperature: up to 25°C (77°F). Do not freeze. |
| **Gammaplex®** | ≥240 (typically 420 – 500) | 0.5 mg/kg/min (0.01 mL/kg/min for 15 minutes, then gradually increase to 4mg/kg/min. (0.08 mL/kg/min). | 5 g D-sorbitol in 100 mL of buffer solution | 24 months (room temperature) | Room temperature: 2–25°C (36–77°F). Do not freeze. |
| **Gamunex®-C** | 258 | * ITP: 1 mg/kg/min.
* PIDD: 1 mg/kg/min.
* CIDP: 2 mg/kg/min.
 | No added sugars | 36 months (refrigerated). 6 months (at room temperature for up to 6 months anytime during 36 month shelf life). | Refrigeration: 2–8°C (36–46°F). Room temperature: up to 25°C (77°F). Do not freeze. |
| **Octagam® 5%** | 310-380 | Initial rate of 0.5 mg/kg/min. | 100 mg/mL maltose | 24 months | Room temperature: 2–25°C (36–77°F). Do not freeze. |
| **Octagam® 10%** | 310-380 | 1.0 mg/kg/min (0.01 mL/kg/min) | 90 mg/mL maltose | 24 months (refrigerated). Within the first 12 months of its shelf-life, the product may be stored up to 6 months at ≤ +25°C (77°F). | Room temperature: 2–25°C (36–77°F). Do not freeze. |
| **Privigen®** | 320 | * PIDD: Initial rate of 0.005 mL/kg/min. If tolerated, increase gradually to 0.08 mL/kg/min.
* ITP: Initial rate of 0.005 mL/kg/min. If tolerated, increase gradually to 0.04 mL/kg/min.
 | No added sugars | 36 months (room temperature) | Room temperature: up to 25°C (77°F). Do not freeze. Protect from light. |

**Table 1** - Infusion Rates for Carimune® NF Concentrations



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| ***SCIg Products*** | **Form** | **Indication** | **pH (after reconstitution)** | **Concentration** | **IgA Content** | **% IgG** | **Na Content (@ 5%)** | **Diluent** |
| **Gammagard® Liquid** | Liquid | PIDD | 4.6 – 5.1 | 10% | 37 µg/mL | ≥ 98% | Non-detectable | N/A |
| **Gammaked™** | Liquid | PIDD | 4 – 4.5 | 10% | 46 µg/mL | ≥ 98% | 1.3 mmol/L | N/A |
| **Gamunex®-C** | Liquid | PIDD | 4 – 4.5 | 10% | 46 µg/mL | ≥ 98% | 1.3 mmol/L | N/A |
| **Hizentra®** | Liquid | PIDD | 4.6 – 5.2 | 20% | ≤ 50 µg/mL | ≥ 98% | Trace | N/A |
|  |  |  |  |  |  |  | **Excipient content** |  |
| **HyQvia™** | Liquid | PIDD | * Immune Globulin Infusion 10% (Human): 4.6 – 5.1
* Recombinant Human Hyaluronidase: 7.4
 | 10% | 37 µg/mL | ≥ 98% | * Immune Globulin Infusion 10% (Human): Glycine (0.25M) serves as a stabilizing and buffering agent. No added sugar, sodium, or preservatives.
* Recombinant Human Hyaluronidase: 8.5 mg/mL sodium chloride, 1.78 mg/mL, sodium phosphate dibasic dihydrate, 1.0 mg/mL human albumin, 1.0 mg/mL edentate disodium dihydrate, 0.40 mg/mL calcium chloride dihydrate, and 0.17 mg/mL sodium hydroxide added for pH adjustment. It does not contain preservatives.
 | N/A |

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| ***SCIg Products*** | **Osmality (mOsm/L)** | **Initial infusion rate** | **Sugar content** | **Shelf life** | **Storage requirements** |
| **Gammagard® Liquid** | 240-300 | * ≥40 kg body weight: 30 mL/site at 20 mL/hr/site.
* <40kg: 20 mL/site at 15 mL/hr/site.
 | No added sugars | 36 months (refrigerated). 12 months (at room temp within the first 24 months of date of manufacture). | Refrigeration: 2–8°C (36–46°F). Room temperature: up to 25°C (77°F). Do not freeze. |
| **Gammaked™ Liquid** | 258 | PIDD: 20 mL/hr/site. | No added sugars | 36 months (refrigerated). 6 months (at room temp for up to 6 months anytime during 36 month shelf life). | Refrigeration: 2–8°C (36–46°F). Room temperature: up to 25°C (77°F). Do not freeze. |
| **Gamunex®-C** | 258 | PIDD | No added sugars | 36 months (refrigerated). 6 months (at room temperature for up to 6 months anytime during 36 month shelf life). | Refrigeration: 2–8°C (36–46°F). Room temperature: up to 25°C (77°F). Do not freeze. |
| **Hizentra®** | N/A | Not for intravenous administration. Avoid injection into blood vessel. Injection sites: abdomen, thighs, upper arms, and/or lateral hip. Manufacturer recommends 15 mL volume per infusion site at a max rate of 50 mL/hr/site by infusion pump. | No added sugars | 18 months (room temperature) | Room temperature: up to 25°C (77°F). Do not freeze. Protect from light. |
| **HyQvia™** | * Immune Globulin Infusion 10% (Human): 240 – 300 mOsmol/kg
* Recombinant Human Hyaluronidase: 290 to 350 mOsm
 | * Administer the Recombinant Human Hyaluronidase of HYQVIA at an initial rate per site of approximately 1 to 2 mL per minute, or as tolerated.
* Administer Immune Globulin Infusion 10% (Human) of HYQVIA at rates provided in **Table 2** below
 | See **Excipient content** section | Up to 36 months refrigerated (36° to 46°F). Up to 3 months during the first 24 months at room temperature (77°F) from the date of manufacturing (Mfg date) printed on the carton. | Refrigeration (36° to 46°F) for up to 36 months. Room temperature (up to 77°F) for up to 3 months. Do not freeze. Protect from light. |

**Table 2** – Hyqvia Immune Globulin Infusion 10% (Human) Infusion Rates

