### Indications and Usage

**GAMASTAN** is a sterile, 16.5% protein solution supplied in 2 mL and 10 mL injection vials for intramuscular use only. Do not administer intravenously.

### Dosage and Administration

**GAMASTAN** is indicated for prophylaxis following exposure to hepatitis A or in susceptible household contacts of measles patients, particularly contacts under 1 year of age, for whom the risk of complications is highest.

**GAMASTAN** is also indicated for pregnant women without evidence of immunity.

- **Rubella**: GAMASTAN is indicated to modify rubella in exposed women who will not consider a therapeutic abortion.
- **Varicella**: Passive immunization against varicella in immunosuppressed patients is best accomplished by use of VariZella Zoster Immune Globulin (Hum) if immune globulin, Gammaglobulin, promptly given, may also modify varicella.

### Adverse Reactions

- **Anaphylactic or severe systemic hypersensitivity reactions to Immune Globulin (Human)**
- **IgA deficient patients with antibodies against IgA and a history of hypersensitivity**

### Warnings and Precautions

- **Patients with known hypersensitivity to immune globulin preparations are at greater risk of developing severe hypersensitivity and anaphylactic reactions.**
- **GAMASTAN is not standardized with respect to antibody titers against hepatitis B surface antigen (HBsAg) and must not be used for passively immunizing individuals who are seropositive for hepatitis B.**
- **GAMASTAN is not intended for routine prophylaxis or treatment of viral hepatitis type B,** nor indicated in persons with clinical manifestations of hepatitis A or in those exposed more than 2 weeks previously.

### Contraindications

- **Anaphylactic or severe systemic hypersensitivity reactions to Immune Globulin (Human)**
- **IgA deficient patients with antibodies against IgA and a history of hypersensitivity**

### Dosage Forms and Strengths

- **GAMASTAN** is a sterile, 16.5% protein solution supplied in 2 mL and 10 mL injection vials.

### Full Prescribing Information

- **2.3 Admistration**
  - Administer promptly if Varicella-Zoster Immune Globulin (Human) (IgG) is unavailable.
- **2.4 Rubella**
  - Only administer to an exposed pregnant woman who will not consider a therapeutic abortion.

### Dosage and Administration

<table>
<thead>
<tr>
<th>Indication</th>
<th>Dosage</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hepatitis A</strong></td>
<td>0.1 mL/kg</td>
<td>Administer within two weeks of prior exposure to hepatitis A.</td>
</tr>
<tr>
<td><strong>Measles</strong></td>
<td>0.2 ml/kg*</td>
<td>Administer before departure to persons traveling to areas with endemic hepatitis A:</td>
</tr>
<tr>
<td><strong>Varicella</strong></td>
<td>0.6 ml/kg to 1 mL/kg</td>
<td>Administer prophylactically if Varicella-Zoster Immune Globulin (Human) (IgG) is unavailable.</td>
</tr>
<tr>
<td><strong>Rubella</strong></td>
<td>0.56 mL/kg</td>
<td>Only administer to exposed pregnant women who will not consider a therapeutic abortion.</td>
</tr>
</tbody>
</table>

### Contraindications

- **Anaphylactic or severe systemic hypersensitivity reactions to Immune Globulin (Human)**
- **IgA deficient patients with antibodies against IgA and a history of hypersensitivity**

### Dosage and Strengths

- **GAMASTAN** is a sterile, 16.5% protein solution supplied in 2 mL and 10 mL single-dose vials.

### Full Prescribing Information

- **2.3 Administration**
  - Administer **GAMASTAN** intramuscularly, preferably in the anterolateral aspects of the upper thigh and the deltoid muscle of the upper arm. Do not use the gluteal region as an injection site because of the risk of injury to the sciatic nerve.
  - **Dose and Inject does greater than 10 mL into several muscle sites to reduce local pain and discomfort.**

### Warnings and Precautions

- **Anaphylactic** or severe systemic hypersensitivity reactions to immune globulin (human) [see Warnings and Precautions (5.1)]
- **IgA deficient patients with antibodies against IgA and a history of hypersensitivity**

### Dosage Forms and Strengths

- **GAMASTAN** is a sterile, 16.5% protein solution supplied in 2 mL and 10 mL single-dose vials.

### Contraindications

- **Anaphylactic** or severe systemic hypersensitivity reactions to immune globulin (human) [see Warnings and Precautions (5.1)]
- **IgA deficient patients with antibodies against IgA and a history of hypersensitivity**
from human plasma, the risk of transmission of pathogens is reduced by:
(1) epidemiological controls on the donor population and selection of
donor individuals by medical interview and screening of individual
donations and plasma pools for viral infection markers, (2) testing of
plasma for hepatitis C virus (HCV), human immunodeficiency virus
(HIV), hepatitis B virus (HBV), HAV, and human parvovirus (B19V)
genomic material; and (3) manufacturing processes with demonstrated
capacity to inactivate/remove pathogens.
No cases of transmission of viral diseases, vCJD, or CJD have ever been
identified for products manufactured with the same core manufacturing
process as GAMASTAN (immune globulin (human)). ALL infections
suspected by a physician possibly to have been transmitted by this
product have been reported by the physician or other healthcare provider
to Grifols Therapeutics LLC [1-800-520-2807].
6 ADVERSE REACTIONS
The most common adverse reaction reported for GAMASTAN® S/D
immune globulin (human) during post-approval use was fatigue.
6.2 Postmarketing Experience
The following adverse reactions have been identified during post-approval
use with GAMASTAN made using the previous manufacturing process.
GAMASTAN S/D. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

Among patients treated with GAMASTAN S/D, cases of allergic/hypersensitivity reactions including anaphylaxis have been reported. Anaphylactic reactions, although rare, have been reported following the injection of human immune globulin preparations. Anaphylaxis was more likely to occur if GAMASTAN S/D was given intravenously; therefore, GAMASTAN S/D and GAMASTAN must be administered only intramuscularly.
The following have been identified as the most frequently reported post-marketing adverse reaction:

Immune system disorders Anaphylactic reaction*, hypersensitivity*
Nervous system disorders Headache
Gastrointestinal disorders Nausea
General disorders and administration site conditions Injection site pain, injection site administration site conditions inflammation, fatigue, pyrexia

* These reactions have been manifested by rash, flushing, and dyspnea

7 DRUG INTERACTIONS
Antibodies in GAMASTAN may interfere with the response to live virus vaccines such as measles, mumps, rubella, and varicella. Do not give live vaccine administration for up to 6 months after GAMASTAN administration.

8 USE IN SPECIFIC POPULATIONS
8.1 Pregnancy
Risk Summary
There are no data with GAMASTAN use in pregnant women to inform a drug-associated risk. Animal reproduction studies have not been conducted with GAMASTAN. It is not known whether GAMASTAN can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity in the female. The U.S. general population, the estimated backgrounds risk of major birth defect and miscarriage in clinically recognized pregnancies is 2% to 4% and 15% to 20%, respectively.

8.2 Lactation
Risk Summary
There is no information regarding the presence of GAMASTAN in human milk, the effect on the breastfed infant, or the effects on milk production. The developmental and long-term effects of breastfeeding should be considered along with the mother’s clinical need for GAMASTAN and any potential adverse effects on the breastfed infant from GAMASTAN or from the underlying maternal condition.

8.4 Pediatric Use
Safety and effectiveness in the pediatric population have not been established.

8.5 Geriatric Use
Safety and effectiveness in geriatric population have not been established.

9 DESCRIPTION
GAMASTAN is a clear or slightly opalescent, and colorless or pale yellow
light brown sterile solution of polyvalent human immune globulin for intramuscular administration. GAMASTAN contains no preservative. GAMASTAN is prepared from pools of human plasma collected from healthy donors by a combination of cold ethanol fractionation, caprylate precipitation and filtration, caprylate incubation, anion-exchange chromatography, nonfoulantification and low pH incubation. GAMASTAN consists of 15% to 18% protein at pH 4.1 to 4.8 in 0.16 to 0.26 M glycine.

When medicinal biological products are administered, infectious diseases due to transmission of pathogens cannot be totally excluded. However, for products manufactured in human plasma, the risk of transmission of pathogens is reduced by epidemiological surveillance of the donor population and selection of individual donors by medical interview; testing of individual donations and plasma pools; and the presence in the manufacturing processes of steps with demonstrated capacity to inactivate/remove pathogens.

The in manufacturing process of GAMASTAN, there are several steps with the capacity for viral inactivation or removal. The main steps of the manufacturing process that contribute to the virus clearance capacity are as follows:
• Caprylate precipitation/depth filtration
• Caprylate incubation
• Depth filtration
• Column chromatography
• Nonfoulantification
• Low pH final container incubation
To provide additional assurance of the pathogen safety of the final product, the capacity of the GAMASTAN manufacturing process to remove and/or inactivate viruses has been demonstrated by laboratory spiking studies on a scaled down process model using a wide range of viruses with diverse physiological properties. The combination of all of the above mentioned measures provides the final product with a high margin of safety from the potential risk of transmission of infectious viruses.
The caprylate/chromatography manufacturing process was also investigated for its capacity to decrease the infectivity of an experimental agent of transmissible spongiform encephalopathy (TSE), considered a model for the variant Creutzfeldt-Jakob disease (vCJD), and Creutzfeldt-Jakob disease (CJD) (CJD) agents. These studies provide reasonable assurance that low levels of vCJD/CJD agent infectivity, if present in the starting material, would be removed by the caprylate/chromatography manufacturing process.

12 CLINICAL PHARMACOLOGY
12.1 Mechanism of Action
The polyclonal antibody in GAMASTAN is a passive immunizing agent to neutralize viruses, such as hepatitis A and measles viruses, to prevent or treat clinical disease. The polyclonal antibody in GAMASTAN is a passive immunizing agent to neutralize viruses, such as hepatitis A and measles viruses, to prevent or treat clinical disease. The caprylate/chromatography manufacturing process was also investigated for its capacity to decrease the infectivity of an experimental agent of transmissible spongiform encephalopathy (TSE), considered a model for the variant Creutzfeldt-Jakob disease (vCJD), and Creutzfeldt-Jakob disease (CJD) (CJD) agents. These studies provide reasonable assurance that low levels of vCJD/CJD agent infectivity, if present in the starting material, would be removed by the caprylate/chromatography manufacturing process.

Mean (Standard Deviation) Rabies Virus Antibody Levels (IU/mL) versus Time Following a Single 20 IU/kg Dose of HYPERVAC (3047928) by Intramuscular Injection

REFERENCES

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