GAMASTAN is a sterile, 16.5% protein solution supplied in 2 mL and 10 mL single-dose vials. (1.5)

For intramuscular use only. Do not administer intravenously.

### DOSAGE AND ADMINISTRATION

#### Measles (Rubella)

**GAMASTAN is indicated for prophylaxis following exposure to measles**.

1. **Measles**

   - **To modify varicella**
     - Varicella-Zoster Immune Globulin (Humank) [see Patient Counseling Information (17)].
     - Adm inister promptly if Varicella-Zoster Immune Globulin (Humank) is unavailable. (1.3)
   - **To modify rubella in exposed women who will not consider a therapeutic abortion**
     - Adm inister promptly if Varicella-Zoster Immune Globulin (Humank) is unavailable. (1.4)
   - **Rubella**
     - Adm inister to a susceptible person (maxim um dose, 0.6 mL/kg†) to an imm unocompromised child. (2.1)

### DOSAGE FORMS AND STRENGTHS

1. **Measles**
   - **To modify varicella**
     - Adm inister promptly if Varicella-Zoster Immune Globulin (Humank) is unavailable. (1.3)
   - **Rubella**
     - Adm inister promptly if Varicella-Zoster Immune Globulin (Humank) is unavailable. (1.4)

### DOSAGE FORMS AND STRENGTHS

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#### Indication

**Preparation for exposure to hepatitis A**.

- **0.1 mL/kg**† Administer within two weeks of prior exposure to hepatitis A. (1.2)
- **0.2 mL/kg**† Administer before departure to persons traveling to areas with endemic hepatitis A. (1.1)
- **0.2 mL/kg**† Administer before departure to persons traveling to areas with endemic hepatitis A: if the length of stay will be up to 1 month, if the length of stay will be up to 2 months; if the length of stay will be 2 months or longer, repeat every 2 months. (1.1)
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**GAMASTAN is indicated for prophylaxis following exposure to hepatitis A**.

1. **Hepatitis A**

   - **GAMASTAN is indicated for prophylaxis following exposure to hepatitis A**.
   - **Modify rubella only in an exposed woman who will not consider a therapeutic abortion**.
   - **0.55 mL/kg**† Only administer to an exposed pregnant woman who will not consider a therapeutic abortion. (2.2)

### DOSAGE FORMS AND STRENGTHS

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7  DRUG INTERACTIONS
6  ADVERSE REACTIONS
8.5  Geriatric Use

plasm a 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, vGc, 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 were reported by the physician or other healthcare provider to Grifols Therapeutics LLC [1-800-520-2877].

6.2 Postmarketing Experience

The following adverse reactions have been identified during post-approval use with GAMASTAN®. The safety of GAMASTAN® has not been established in the conditions of use other than those specified.

6.3 Precautions

The following reactions have been identified as the most frequently reported post-approval use were fatigue.

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 reactions.

Immune system disorders

• Anaphylactic reaction*, hyper-sensitivity

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, polio, rubella, and varicella. Provide 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 U.S. general population. The estimated background risk of major birth defects 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 pediatric population have not been established.

8.5 Geriatric Use

Safety and effectiveness in geriatric population have not been established.

11  DESCRIPTION

GAMASTAN® is a clear or slightly opalescent, and colorless or pale yellow or 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, nanofiltration 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, products of such products prepared from 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.

In the 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
• Nanofiltration
• 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) agents. \textsuperscript{11} 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 infections. The prophylactic value of GAMASTAN® is greatest when given before or immediately after exposure.

12.2 Pharmacodynamics

The prophylactic value of GAMASTAN® is greatest when given before or soon after exposure.

12.3 Pharmacokinetics

Peak levels of immunoglobulin G are obtained approximately two days after intramuscular injection of GAMASTAN®. \textsuperscript{10} The half-life of IgG in the circulation of individuals with normal IgG levels is 23 days. \textsuperscript{17} In a clinical study, 12 healthy human subjects received a 20 IU/kg intramuscular dose of HYPERRAB® (rabies immune globulin [human]), made using the same manufacturing process as GAMASTAN®. Detectable passive rabies neutralizing antibody was present by 24 hours and persisted through the 21 day follow-up evaluation period. The figure below shows the mean levels of rabies virus antibodies in IU/mL across the 21 day evaluation period and indicates that the titer remains stable during this period.

16  HOW SUPPLIED/STORAGE AND HANDLING

GAMASTAN® is supplied in 2 mL and 10 mL single dose vials. GAMASTAN® contains no preservative and is not made with natural rubber latex.

NDC Number

<table>
<thead>
<tr>
<th>Size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>13533-335-64</td>
<td>2 mL vial</td>
</tr>
<tr>
<td>13533-335-12</td>
<td>10 mL vial</td>
</tr>
</tbody>
</table>

Store GAMASTAN® at 2°C to 8°C (36°F to 46°F).

Do not freeze.

Do not use after expiration date.

17  PATIENT COUNSELING INFORMATION

• Discuss the risks and benefits of this product with the patient, before prescribing or administering it to the patient.

• Instruct the patient to immediately report symptoms of thrombosis. These symptoms may include: pain and/or swelling of an arm or leg with warmth over the affected area, discoloration of an arm or leg, unexplained shortness of breath, chest pain or discomfort that worsens on deep breathing, unexplained rapid pulse, numbness or weakness on one side of the body. [see Warnings and Precautions (5.2).]

• Inform the patient that GAMASTAN® is made from human plasma and may carry a risk of transmitting infectious agents that can cause disease. While the risk that GAMASTAN® can transmit an infectious agent has been reduced by screening plasma donors for prior exposure, testing donated plasma, and including manufacturing steps with the capacity to inactivate/remove pathogens, instruct the patient to report any symptoms that concern them. [see Boxed Warning. Warnings and Precautions (5.2).]

• Inform the patient that GAMASTAN® can interfere with their immune response to live virus vaccines such as measles, mumps, rubella, polio, and varicella. Inform patients to notify their healthcare professionals of this potential interaction when they are receiving vaccinations. [see Drug Interactions (7)].