Rhophylac
Coding Information
Rhophylac Coding Information

This resource provides information from several complex and evolving medical coding systems. The treating physician is ultimately responsible for certifying the codes that best describe the patient’s diagnosis and treatment, based on the patient’s condition and the services provided, as supported by the physician’s medical record documentation. All codes listed in this guide are for informational purposes and are not an exhaustive list of possible codes. The CPT®, HCPCS, and ICD-10-CM diagnosis codes provided are based on AMA or CMS guidelines. Because government and other third-party payor coding requirements change periodically, please verify current coding requirements directly with the payor being billed.

Rhophylac Rh(D) Immune Globulin Intravenous (Human)
For Intravenous or Intramuscular Injection.

<table>
<thead>
<tr>
<th>NDC Number</th>
<th>Description</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>44206-0300-01</td>
<td>1 prefilled 2 mL syringe</td>
<td>1500 IU (300 mcg)</td>
</tr>
<tr>
<td>44206-0300-10</td>
<td>10 prefilled 2 mL syringes</td>
<td>1500 IU (300 mcg)</td>
</tr>
</tbody>
</table>

Indication
Suppression of Rh isoimmunization in pregnancy and obstetrical conditions

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>043.011</td>
<td>Fetomaternal placental transfusion syndrome, first trimester</td>
</tr>
<tr>
<td>043.012</td>
<td>Fetomaternal placental transfusion syndrome, second trimester</td>
</tr>
<tr>
<td>043.013</td>
<td>Fetomaternal placental transfusion syndrome, third trimester</td>
</tr>
<tr>
<td>043.019</td>
<td>Fetomaternal placental transfusion syndrome, unspecified trimester</td>
</tr>
<tr>
<td>000.01</td>
<td>Tubal pregnancy</td>
</tr>
<tr>
<td>000.08</td>
<td>Other ectopic pregnancy</td>
</tr>
<tr>
<td>001.0</td>
<td>Hydatidiform mole</td>
</tr>
<tr>
<td>001.1</td>
<td>Classical hydatidiform mole</td>
</tr>
<tr>
<td>001.9</td>
<td>Hydatidiform mole, unspecified</td>
</tr>
<tr>
<td>003</td>
<td>Spontaneous abortion</td>
</tr>
<tr>
<td>003.89</td>
<td>Complete or unspecified spontaneous abortion with other complications</td>
</tr>
<tr>
<td>020.0</td>
<td>Threatened abortion</td>
</tr>
<tr>
<td>036.010</td>
<td>through 036.0139</td>
</tr>
</tbody>
</table>

HCPCS (Healthcare Common Procedure Coding System)®

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J2791</td>
<td>Injection, Rh(D) Immune Globulin (Human), (Rhophylac), intramuscular or intravenous, 100 IU</td>
</tr>
</tbody>
</table>

For more information or assistance, please call 800-676-4266.

References:

Note: Each code is assigned according to instructions and guidelines found in theAMA's CPT® Professional Edition. Local coding guidelines may vary. Please refer to your local coding protocol for specific guidance.

For Intravenous or Intramuscular Injection.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>96365</td>
<td>Intravenous infusion for therapy, prophylaxis, or diagnosis (specify substance or drug); each additional hour (list separately in addition to code for primary procedure)</td>
</tr>
<tr>
<td>96366</td>
<td>Each additional hour (list separately in addition to code for primary procedure)</td>
</tr>
<tr>
<td>96372</td>
<td>Therapeutic, prophylactic, or diagnostic injection (specify substance or drug); each additional sequential intravenous push of the same substance/drug provided in a facility (list separately in addition to code for primary procedure)</td>
</tr>
<tr>
<td>96374*</td>
<td>Therapeutic, prophylactic, or diagnostic injection (specify substance or drug); intravenous push, single or initial substance/drug</td>
</tr>
<tr>
<td>96376**</td>
<td>Therapeutic, prophylactic, or diagnostic injection (specify substance or drug); each additional sequential intravenous push of the same substance/drug provided in a facility (list separately in addition to code for primary procedure)</td>
</tr>
</tbody>
</table>

* An intravenous push is defined as: a) an injection in which the healthcare professional who administers the substance or drug is continuously present to administer the injection and observe the patient, or b) an infusion of 15 minutes or less.
** Do not report 96376 for a push performed within 30 minutes of a reported push of the same substance or drug.

CPT® Codes (Current Procedural Terminology)®
These codes are used to report services performed by the healthcare provider in a clinical setting. Include with drug codes.
CPT is a registered trademark of the AMA.
CMS-1500 Claim Example

A Field 21
Enter all appropriate ICD-10-CM diagnosis codes, starting on Field 21, Line 1. This field allows the entry of 1 character indicator and 12 diagnosis codes at a maximum of 7 characters in length.

B Field 24D (CPT/HCPCS)
- Enter HCPCS code J2791 for Rhophylac
- Include CPT codes for infusion: 96365, infusions first hour 96366, infusion each additional hour

C Field 24D (Shaded Area)
For Medicaid claims, and for Medicare claims that will cross over to Medicaid as the secondary payer, NDC information in a specific format is required in the shaded area above the line on which Rhophylac is reported in 24D. The various Medicaid plans and Medicare have different reporting formats for this information. In general, the billing entity will need to supply the NDC (in HIPAA-compliant 11-digit format) preceded by the Modifier N4 (eg, N499999999999). This is typically followed by the NDC unit of measure (I2 [international unit], GR [gram], ML [milliliter], or UN [unit]) and the numeric quantity of the NDC that was dispensed. Other payers may require similar information. Check with your payer for specific requirements related to reporting the information required in the shaded areas of Field 24.

D Field 24E (Diagnosis Pointer)
Enter the line number(s) from Field 21 that best describes the medical necessity for the service listed in Field 24D. For Medicare claims, only one line number from Field 21 should be entered in Field 24E for each HCPCS code reported in Field 24D.

E Field 24G (Days or Units)
Enter 1 billing unit for each 100 IU of Rhophylac used to care for the patient. For example, if one 1500 IU pre-filled syringe is used to care for the patient, the number of billing units in this field would be 15 (1500 IU / 100 IU).
Important Safety Information

Rhophylac is indicated for suppression of rhesus (Rh) isoimmunization in:

- **Pregnancy and obstetric conditions** in non-sensitized, Rh(D)-negative women with an Rh-incompatible pregnancy, including routine antepartum and postpartum Rh prophylaxis and Rh prophylaxis in cases of obstetric complications, invasive procedures during pregnancy, or obstetric manipulative procedures.

- **Incompatible transfusions** in Rh(D)-negative individuals transfused with blood components containing Rh(D)-positive red blood cells.

For suppression of Rh isoimmunization, Rhophylac can be administered IM or IV.

Rhophylac is indicated to raise platelet counts in Rh(D)-positive, non-splenectomized adult patients with chronic immune thrombocytopenic purpura (ITP). For the treatment of ITP, Rhophylac must be administered IV.

**WARNING: INTRAVASCULAR HEMOLYSIS IN ITP**

This warning does not apply to Rh(D)-negative patients treated for the suppression of Rh isoimmunization. Intravascular hemolysis leading to death has been reported in Rh(D)-positive patients treated for immune thrombocytopenic purpura (ITP) with Rh(D) Immune Globulin Intravenous (Human) products. Intravascular hemolysis can lead to clinically compromising anemia and multi-system organ failure, including acute respiratory distress syndrome (ARDS). Serious complications, including severe anemia, acute renal insufficiency, renal failure, and disseminated intravascular coagulation (DIC), have also been reported. Closely monitor patients treated for ITP with Rhophylac in a healthcare setting for at least 8 hours after administration. See full prescribing information for complete boxed warning.

Rhophylac is contraindicated in individuals with known anaphylactic or severe systemic reaction to human immune globulin products. Rhophylac is contraindicated in IgA-deficient patients with antibodies to IgA and a history of hypersensitivity.

Allergic or hypersensitivity reactions may occur with Rhophylac; early signs of hypersensitivity include generalized urticaria, chest tightness, wheezing, hypotension, and anaphylaxis.

Rhophylac is derived from human plasma. The risk of transmission of infectious agents, including viruses and, theoretically, the Creutzfeldt-Jakob disease (CJD) agent, cannot be completely eliminated.

**Suppression of Rh Isoimmunization:** For postpartum use following an Rh-incompatible pregnancy, Rhophylac should not be given to the newborn infant.

The most common adverse reactions in the suppression of Rh isoimmunization with Rhophylac are nausea, dizziness, headache, injection-site pain, and malaise.

**Immune Thrombocytopenic Purpura:** The most serious adverse reactions in patients receiving Rho(D) immune globulin have been observed in the treatment of ITP. ITP patients being treated with Rhophylac should be monitored for signs and symptoms of intravascular hemolysis, including back pain, shaking chills, fever, and hemoglobinuria. Potentially serious complications of intravascular hemolysis include clinically compromising anemia, acute renal insufficiency, and, very rarely, disseminated intravascular coagulation, and death.

The most common adverse reactions observed in the treatment of ITP are chills, pyrexia/increased body temperature, and headache. Mild extravascular hemolysis has also been observed. In patients with preexisting anemia, weigh the benefits of Rhophylac against the potential risk of increasing the severity of the anemia.

Immunoglobulin administration may transiently interfere with the immune response to live virus vaccines, such as measles, mumps and rubella.

Please see enclosed full prescribing information.
RHOPHYLAC
Rh(D) Immune Globulin Intravenous (Human) 1500 IU (300 mcg)
Solution for Intravenous (IV) or Intramuscular (IM) Injection
Initial US Approval: 2004

WARNING: INTRAVASCULAR HEMOLYSIS IN ITP
See full prescribing information for complete boxed warning. This warning does not apply to Rh(D)-negative patients treated for the suppression of Rh immunization.

- Intravascular hemolysis leading to death has been reported in Rh(D)-positive patients treated for immune thrombocytopenic purpura (ITP) with Rh(D) Immune Globulin Intravenous (Human) products.
- Intravascular hemolysis can lead to clinically compromising anemia and multi-system organ failure including acute respiratory distress syndrome (ARDS); acute renal insufficiency, renal failure, and disseminated intravascular coagulation (DIC) have been reported.
- Monitor patients for signs and symptoms of intravascular hemolysis in a healthcare setting for at least 8 hours after administration.

* A 1500 IU (300 mcg) dose of Rhophylac will suppress the immunizing potential of ≤15 mL of Rh0(D)-positive RBCs.†
† The dose of Rhophylac must be increased if the patient is exposed to >15 mL of Rh0(D)-positive RBCs; in this case, follow the dosing guidelines for excessive fetomaternal hemorrhage.

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INDICATIONS AND USAGE

Suppression of Rh isoimmunization (1.1) in:
- Pregnancy and obstetric conditions in non-sensitized, Rh0(D)-negative women with:
  - Rhophylac in obstetric complications or invasive procedures
  - Routine antepartum and postpartum Rh prophylaxis
  - Postpartum prophylaxis
  - Obstetric complications/invasive procedures

Dosage and Administration (2.2)              05/2016

Warning does not apply to Rh0(D)-negative patients treated for the suppression of Rh isoimmunization.

- Incompatible transfusions in Rh0(D)-negative individuals transfused with blood components containing Rh0(D)-positive red blood cells (RBCs).1

Suppression of Rh isoimmunization (2.2) (IV or IM administration only.)

A 1500 IU (300 mcg) dose of Rhophylac will suppress the immunizing potential of ≤15 mL of Rh0(D)-positive RBCs.†
† The dose of Rhophylac must be increased if the patient is exposed to >15 mL of Rh0(D)-positive RBCs; in this case, follow the dosing guidelines for excessive fetomaternal hemorrhage.

Dose Rate of administration
250 IU (50 mcg) per kg body weight 2 mL per 15 to 60 seconds

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ADVERSE REACTIONS

The most common adverse reactions, reported in >14% of subjects, are chills, pyrexia/dizziness, headache, injection-site pain, and malaise (6.1).

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HIGHLIGHTS OF PRESCRIBING INFORMATION

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

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REFERENCES

See 17 for PATIENT COUNSELING INFORMATION. Revised: May 2016

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* Sections or subsections omitted from the full prescribing information are not listed.
Rhophylac®
Rh₀(D) Immune Globulin Intravenous (Human)

1 INDICATIONS AND USAGE
Rhophylac is an Rh₀(D) Immune Globulin Intravenous (Human) (anti-D) product that is indicated for the suppression of Rh isoimmunization in non-sensitized Rh₀(D)-negative women and patients and for the treatment of immune thrombocytopenic purpura (ITP) in Rh₀(D)-positive patients.

1.1 Suppression of Rh Isoimmunization

Pregnancy and Obstetric Conditions
Rhophylac is indicated for suppression of rhesus (Rh) isoimmunization in non-sensitized Rh₀(D)-negative women and Rh₀(D)-positive patients, and for the treatment of immune thrombocytopenic purpura (ITP) in Rh₀(D)-positive patients.

1.2 ITP
Rhophylac is indicated in Rh₀(D)-positive, non-splenectomized adult patients with chronic ITP to raise platelet counts.

2 DOSAGE AND ADMINISTRATION
As with all blood products, patients should be observed for at least 20 minutes following administration of Rhophylac.

2.1 Preparation and Handling
• Rhophylac is a clear or slightly opalescent, colorless to pale yellow solution. Inspect Rhophylac visually for particulate matter and discoloration prior to administration. Do not use if the solution is cloudy or contains particulates.
• Prior to intravenous use, ensure that the needle-free intravenous administration system is compatible with the tip of the Rhophylac glass syringe.
• Do not freeze.
• Bring Rhophylac to room temperature before use.
• Rhophylac is for single use only. Dispose of any unused product or waste material in accordance with local requirements.

2.2 Suppression of Rh Isoimmunization
Rhophylac should be administered by intravenous or intramuscular injection. If large doses (greater than 5 mL) are required and intramuscular injection is chosen, it is advisable to administer Rhophylac in divided doses at different sites. Ensure the site of administration will allow the injection to reach the muscle if Rhophylac is administered intramuscularly. Consider intravenous administration if reaching the muscle is of concern (see Adverse Reactions (6.2)). Do not administer Rhophylac subcutaneously into the fatty tissue.

Table 1 provides dosing guidelines based on the condition being treated.

<table>
<thead>
<tr>
<th>Indication</th>
<th>Timing of Administration</th>
<th>Dose* (Administer by Intravenous or Intramuscular Injection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rh-incompatible pregnancy</td>
<td>At Week 28-30 of gestation</td>
<td>1500 IU (300 mcg)</td>
</tr>
<tr>
<td>Postpartum prophylaxis</td>
<td>Within 72 hours of birth</td>
<td>1500 IU (300 mcg)</td>
</tr>
<tr>
<td>Obstetric complications (e.g., miscarriage, abortion, threatened abortion, ectopic pregnancy or hydatidiform mole, transplacental hemorrhage resulting from antepartum hemorrhage)</td>
<td>Within 72 hours of complication</td>
<td>1500 IU (300 mcg)</td>
</tr>
<tr>
<td>Excessive transfusion (in excess of 15 mL if excess transplacental bleeding is quantified)</td>
<td>Within 72 hours of procedure</td>
<td>1500 IU (300 mcg)</td>
</tr>
<tr>
<td>Incompatible transfusions</td>
<td>Within 72 hours of exposure</td>
<td>100 IU (20 mcg) per mL transfused RBCs</td>
</tr>
</tbody>
</table>

**WARNING: INTRAVASCULAR HEMOLYSIS IN ITP**
This warning does not apply to Rh₀(D)-negative patients treated for the suppression of Rh isoimmunization.

• Intravascular hemolysis leading to death has been reported in Rh₀(D)-positive patients treated for immune thrombocytopenic purpura (ITP) with Rh₀(D) Immune Globulin Intravenous (Human) products.
• Intravascular hemolysis can lead to clinically compromising anemia and multi-system organ failure including acute respiratory distress syndrome (ARDS); acute renal insufficiency, renal failure, and disseminated intravascular coagulation (DIC) have been reported.
• Monitor patients treated for signs and symptoms of hemolysis in a healthcare setting for at least 8 hours after administration. Perform a dipstick urinalysis at baseline, 2 hours and 4 hours after administration, and prior to the end of the monitoring period. Alert patients to, and monitor them for back pain, shaking chills, fever, and discolored urine or hematuria. Absence of these signs and/or symptoms within 8 hours does not indicate IVH cannot occur subsequently. If signs and/or symptoms of intravascular hemolysis are present or suspected after Rhophylac administration, perform post-treatment laboratory tests, including plasma hemoglobin, haptoglobin, LDH, and plasma bilirubin (direct and indirect).

**2.3 ITP**

† The dose of Rhophylac must be increased if the patient is exposed to >15 mL of Rh₀(D)-positive blood containing Rh₀(D)-positive RBCs.

Within 72 hours of birth

Within 72 hours of complication

Within 72 hours of procedure

Within 72 hours of exposure

* A 1500 IU (300 mcg) dose of Rhophylac will suppress the immunizing potential of ≥15 mL of Rh₀(D)-positive RBCs.†

† The dose of Rhophylac must be increased if the patient is exposed to >15 mL of Rh₀(D)-positive RBCs; in this case, follow the dosage guidelines for excessive transfemoral hemorrhage.

**2.3 ITP**

For treatment of ITP, ADMINISTER RHOPHYLAC BY THE INTRAVENOUS ROUTE ONLY (see Dosage and Administration (2.1)). Do not administer intramuscularly. A 250 IU (50 mcg) per kg body weight dose of Rhophylac is recommended for patients with ITP. The following formula can be used to calculate the recommended amount of Rhophylac to administer:

Dose (IU) x body weight (kg) = Total IU / 1500 IU per syringe = Number of syringes

**ILL, international units; mcg, micrograms.**

Rhophylac is contraindicated in IgA-deficient patients with antibodies to IgA and a systemic reaction to the administration of human immune globulin.

Rhophylac is contraindicated in IgA-deficient patients with antibodies to IgA and a systemic reaction to the administration of human immune globulin.

Table 1 provides dosing guidelines based on the condition being treated.

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<td>1500 IU (300 mcg)</td>
</tr>
<tr>
<td>Incompatible transfusions</td>
<td>Within 72 hours of exposure</td>
<td>100 IU (20 mcg) per mL transfused blood or per 1 mL erythrocyte concentrate</td>
</tr>
</tbody>
</table>

**Incompatible transfusions**

Within 72 hours of exposure

Within 72 hours of procedure

Within 72 hours of complication

100 IU (20 mcg) per mL transfused blood or per 1 mL erythrocyte concentrate

**3 DOSAGE FORMS AND STRENGTHS**

1500 IU (300 mcg) per 2 mL prefilled, ready-to-use, glass syringe for IV or IM use.

**4 CONTRAINDICATIONS**

• Rhophylac is contraindicated in patients who have had an anaphylactic or severe systemic reaction to the administration of human immune globulin.

• Rhophylac is contraindicated in IgA-deficient patients with antibodies to IgA and a history of hypersensitivity to Rhophylac or any of its components.

• Do not administer Rhophylac to the newborn infant of a mother that received Rhophylac postpartum.
5 WARNINGS AND PRECAUTIONS

5.1 Both Indications

5.1.1 Hypersensitivity
Severe hypersensitivity reactions may occur even in patients who have tolerated previous administrations. If symptoms of allergic or early signs of hypersensitivity reactions (including generalized urticaria, tightness of the chest, wheezing, hypotension, and anaphylaxis) occur, discontinue Rhophylac administration immediately and institute appropriate treatment. Medications such as epinephrine should be available for immediate treatment of acute hypersensitivity reactions to Rhophylac or any of its components.

Rhophylac contains trace amounts of IgA (less than 5 mcg/mL) [see Description (11)]. Patients with known antibodies to IgA have a risk of developing potentially severe hypersensitivity and anaphylactic reactions. Rhophylac is contraindicated in patients with antibodies against IgA and a history of hypersensitivity reactions [see Contraindications (4)].

5.1.2 Interference with Laboratory Tests
The administration of Rh(D) immune globulin may affect the results of blood typing, the antibody screening test, and the direct antiglobulin (Coombs') test. Antepartum administration of Rh(D) immune globulin to the mother can also affect these tests in the newborn infant. Rhophylac can contain antibodies to other Rh antigens (e.g., anti-C antibodies), which might be detected by sensitive serological tests following administration.

5.1.3 Transmissible Infectious Agents
Because Rhophylac is made from human blood, it may carry a risk of transmitting infectious agents, e.g., viruses and, theoretically, the Creutzfeldt-Jakob disease (CJD) agent. The risk of infectious agent transmission has been reduced by screening plasma donors for the presence of certain current virus infections, and including virus inactivation/removal steps in the manufacturing process for Rhophylac.

Report any infections thought to be possibly transmitted by Rhophylac to CSL Behring Pharmacovigilance at 1-866-915-6958.

5.2 ITP

5.2.1 Intravascular Hemolysis
Serious intravascular hemolysis has occurred in a clinical study with Rhophylac. All cases resolved completely. However, as reported in the literature, some Rh(D)-positive patients treated with Rh(D) Immune Globulin Intravenous (Human) for ITP developed clinically compromising anemia, acute renal insufficiency, and, very rarely, disseminated intravascular coagulation (DIC) and death.1

Note: This warning does not apply to Rh(D)-negative patients treated for the suppression of Rh isoimmunization.

Monitor patients in a healthcare setting for at least 8 hours after administration of Rhophylac. Perform a dipstick urinalysis at baseline, 2 hours and 4 hours after administration, and prior to the end of the monitoring period.

Alert patients to, and monitor them for, the signs and symptoms of intravascular hemolysis, including back pain, shaking chills, fever, and discolored urine or hematruia. Absence of these signs and/or symptoms of intravascular hemolysis within 8 hours do not indicate intravascular hemolysis cannot occur subsequently. If signs and/or symptoms of intravascular hemolysis are present or suspected after Rhophylac administration, perform post-treatment laboratory tests, including plasma hemoglobin, haptoglobin, LDH, and plasma bilirubin (direct and indirect). DIC may be difficult to detect in the ITP population; the diagnosis is dependent mainly on laboratory testing.

If patients who develop hemolysis with clinically compromising anemia after receiving Rhophylac are to be transfused, Rh0(D)-negative packed RBCs should be used to avoid exacerbating ongoing hemolysis.

5.2.2 Pre-existing Anemia
The safety of Rhophylac in the treatment of ITP has not been established in patients with pre-existing anemia. Rhophylac may increase the severity of anemia.

5.3 ADVERSE REACTIONS

The most serious adverse reactions in patients receiving Rh(D) Immune Globulin Intravenous (Human) have been observed in the treatment of ITP and include intravascular hemolysis, clinically compromising anemia, acute renal insufficiency, and, very rarely, DIC and death [see Boxed Warning, and Warnings and Precautions (5.3.1)].1

The most common adverse reactions observed in the use of Rhophylac for suppression of Rh isoimmunization (≥0.5% of subjects) are nausea, dizziness, headache, injection-site pain, and malaise.

The most common adverse reactions observed in the treatment of ITP (>14% of subjects) are chills, pyrexia/increased body temperature, and headache. Hemolysis (manifested by an increase in bilirubin, a decrease in hemoglobin, or a decrease in haptoglobin) was also observed.

6.1 Clinical Studies Experience

Because clinical studies are conducted under different protocols and widely varying conditions, adverse reaction rates observed cannot be directly compared to rates in other clinical trials and may not reflect the rates observed in practice.

Suppression of Rh Isoimmunization
In two clinical studies, 447 Rh(D)-negative pregnant women received either an intravenous or intramuscular injection of Rhophylac 1500 IU (300 mcg) at Week 28 of gestation. A second 1500 IU (300 mcg) dose was administered to 267 (9 in Study 1 and 258 in Study 2) of these women within 72 hours of the birth of an Rh(D)-positive baby. In addition, 30 women in Study 2 received at least one extra antepartum 1500 IU (300 mcg) dose due to obstetric complications [see Clinical Studies (14.1)].

The most common adverse reactions in study subjects were nausea (0.7%), dizziness (0.5%), headache (0.5%), injection-site pain (0.5%), and malaise (0.5%). A laboratory finding of a transient positive anti-C antibody test was observed in 0.9% of subjects.

ITP
In a clinical study, 98 Rh(D)-positive adult subjects with chronic ITP received an intravenous dose of Rhophylac 250 IU (50 mcg) per kg body weight [see Clinical Studies (14.2)]. Premedication to alleviate infusion-related side effects was not used except in a single subject who received acetaminophen and diphenhydramine. Sixty-nine (70.4%) subjects had 186 adverse events. Within 24 hours of dosing, 73 (74.5%) subjects experienced 183 Treatment-Emertgent Adverse Events, and 66 (67%) subjects experienced 156 adverse reactions.

Hemolysis (manifested as an increase in bilirubin, a decrease in hemoglobin, or a decrease in haptoglobin) was observed. An increase in blood bilirubin was seen in 21% of subjects. The median decrease in hemoglobin was greatest (0.8 g/dL) at Day 6 and Day 8 following administration of Rhophylac.

Table 2 shows the most common adverse reactions observed in the clinical study.

Table 2: Most Common Treatment-Emergent Adverse Reactions in Subjects with ITP (Occurring in ≥10% of Subjects)

<table>
<thead>
<tr>
<th>TEAR</th>
<th>Number of Subjects (%) With a TEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chills</td>
<td>34 (34.7%)</td>
</tr>
<tr>
<td>Pyrexia/ Increased body temperature</td>
<td>30 (30.6%)</td>
</tr>
<tr>
<td>Increased blood bilirubin</td>
<td>21 (21.4%)</td>
</tr>
<tr>
<td>Headache</td>
<td>11 (11.2%)</td>
</tr>
</tbody>
</table>

Serious adverse reactions (SARs) were reported in 4 (4.1%) subjects. SARs were intravascular hemolytic reaction (hypotension, nausea, chills and headache, and a decrease in haptoglobin and hemoglobin) in two subjects; headache, dizziness, nausea, pallor, shivering, and weakness requiring hospitalization in one subject; and an increase in blood pressure and severe headache in one subject. All four subjects recovered completely.

6.2 Postmarketing Experience

Because postmarketing adverse 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 product exposure. The following adverse reactions have been identified during post-approval use of Rhophylac:

Suppression of Rh Isoimmunization
Hypersensitivity reactions, including rare cases of anaphylactic shock or anaphylactoid reactions, headache, dizziness, vertigo, hypotension, tachycardia, dyspnea, nausea, vomiting, rash, erythema, pruritus, chills, pyrexia, malaise, diarreha and back pain have been reported. Transient injection-site irritation and pain have been observed following intramuscular administration.

There have been reports of lack of effect in patients with a body mass index ≥30 when administered via the intramuscular route was attempted [see Dosing and Administration (2.2)].

ITP
Transient hemoglobinuria has been reported in a patient being treated with Rhophylac for ITP.

7 DRUG INTERACTIONS

7.1 Live Virus Vaccines
Passive transfer of antibodies may transiently impair the immune response to live attenuated virus vaccines such as measles, mumps, rubella, and varicella [see Patient Counseling Information (17)]. Do not immunize with live vaccines within 3 months after the final dose of Rhophylac. If Rhophylac is administered within 14 days after administration of a live vaccine, the immune response to the vaccination may be inhibited.2

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Pregnancy Category C. Animal reproduction studies have not been conducted with Rhophylac.

Suppression of Rh Isoimmunization
Rhophylac is used in pregnant women for the suppression of Rh isoimmunization. The available evidence suggests that Rhophylac does not harm the fetus or affect future
pregnancies or reproduction capacity when given to pregnant Rh_0(D)-negative women for suppression of Rh isoimmunization.\textsuperscript{4}

ITP
Rhophylac has not been evaluated in pregnant women with ITP

8.3 Nursing Mothers
Suppression of Rh Isoimmunization
Rhophylac is used in nursing mothers for the suppression of Rh isoimmunization. No undesirable effects on a nursing infant are expected during breastfeeding.

ITP
Rhophylac has not been evaluated in nursing mothers with ITP.

8.4 Pediatric Use
Suppression of Rh Isoimmunization in Incompatible Transfusions
The safety and effectiveness of Rhophylac have not been established in pediatric subjects being treated for an incompatible transfusion. The physician should weigh the potential risks against the benefits of Rhophylac, particularly in girls whose later pregnancies may be affected if Rh isoimmunization occurs.

Chronic ITP
The safety and effectiveness of Rhophylac have not been established in pediatric subjects with chronic ITP. Dosing in the treatment of children with chronic ITP is expected to be similar to adults.

8.5 Geriatric Use
Suppression of Rh Isoimmunization in Incompatible Transfusions
Rhophylac has not been evaluated for treating incompatible transfusions in subjects 65 years of age and older.

ITP
Of the 98 subjects evaluated in the clinical study of Rhophylac for treatment of ITP [see Clinical Studies (14.2)], 19\% were 65 years of age and older. No overall differences in effectiveness or safety were observed between these subjects and younger subjects.

10 OVERDOSAGE
There are no reports of known overdoses in patients being treated for suppression of Rh isoimmunization or ITP. Patients with compatible transfusion or ITP who receive an overdose of Rh\(_0\)(D) immune globulin should be monitored because of the potential risk for hemolysis.

11 DESCRIPTION
Rhophylac is a sterile Rh\(_0\)(D) Immune Globulin Intravenous (Human) (anti-D) solution in a ready-to-use prefilled glass syringe that contains 1500 IU (300 mcg) of IgG antibodies to Rh\(_0\)(D) in a 2 mL solution, sufficient to suppress the immune response to at least 15 mL of Rh-positive RBCs.\textsuperscript{7} The product potency is expressed in IU\()s by comparison to the World Health Organization (WHO) standard, which is also the US and the European Pharmacopeia standard. Plasma is obtained from healthy Rh\(_0\)(D)-negative donors who have been immunized with Rh\(_0\)(D)-positive RBCs. The donors are screened carefully to reduce the risk of receiving donations containing blood-borne pathogens. Each plasma donation used in the manufacture of Rhophylac is tested for the presence of HBV surface antigen (HBsAg), HIV-1/2, and HCV antibodies. In addition, plasma used in the manufacture of Rhophylac is tested by FDA-licensed Nucleic Acid Testing (NAT) for HBV, HCV, and HIV-1 and found to be negative. The source plasma is also tested by NAT for hepatitis A virus (HAV) and B19 virus (B19V).

Rhophylac is produced by an ion-exchange chromatography isolation procedure, using pooled plasma obtained by plasmapheresis of Rh\(_0\)(D)-negative US donors. The manufacturing process includes a solvent/detergent treatment step (using tri-n-butyl phosphate and Triton\textsuperscript{\textregistered} X-100) that is effective in inactivating enveloped viruses such as HCV, HIV, and HBV.\textsuperscript{6,7} Rhophylac is filtered using a Planova\textsuperscript{\textregistered} 15 nanometer (nm) virus filter that has been validated to be effective in removing both enveloped and non-enveloped viruses. Table 3 presents viral clearance and inactivation data from validation studies, expressed as the mean log\(_10\) reduction factor (LRF).

Table 3: Virus Inactivation and Removal in Rhophylac

<table>
<thead>
<tr>
<th>Virus property</th>
<th>HIV</th>
<th>PRV</th>
<th>BVDV</th>
<th>MVV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genome</td>
<td>RNA</td>
<td>DNA</td>
<td>RNA</td>
<td>DNA</td>
</tr>
<tr>
<td>Envelope</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Size (nm)</td>
<td>80-100</td>
<td>120-200</td>
<td>40-70</td>
<td>18-24</td>
</tr>
</tbody>
</table>

Manufacturing step Mean LRF

Solvent/detergent treatment ≥6.0 ≥5.6 ≥5.4 Not tested

Chromatographic process steps

4.5 ≥3.9 1.6 ≥2.6

Virus filtration ≥6.3 ≥5.6 ≥5.5 3.4

Overall reduction (log\(_{10}\)), units ≥16.8 ≥15.1 ≥12.5 ≥6.0

Rhophylac contains a maximum of 30 mg/mL of human plasma proteins, 10 mg/mL of which is human albumin added as a stabilizer. Prior to the addition of the stabilizer, Rhophylac has a purity greater than 95\% IgG. Rhophylac contains less than 5 mcg/mL of IgA, which is the limit of detection. Additional excipients are approximately 20 mg/mL of glycine and up to 0.25 M of sodium chloride. Rhophylac contains no preservative. Human albumin is manufactured from pooled plasma of US donors by cold ethanol fractionation, followed by pasteurization.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action
Suppression of Rh Isoimmunization
The mechanism by which Rh\(_0\)(D) immune globulin suppresses immunization to Rh\(_0\)(D)-positive RBCs is not completely known. In a clinical study of Rh\(_0\)(D)-negative healthy male volunteers, both the intravenous and intramuscular administration of a 1500 IU (300 mcg) dose of Rhophylac 24 hours after injection of 15 mL of Rh\(_0\)(D)-positive RBCs resulted in an effective clearance of Rh\(_0\)(D)-positive RBCs. On average, 99\% of injected RBCs were cleared within 12 hours following intravenous administration and within 144 hours following intramuscular administration.

ITP
Rhophylac has been shown to increase platelet counts and to reduce bleeding in non-splenectomized Rh\(_0\)(D)-positive subjects with chronic ITP. The mechanism of action is thought to involve the formation of Rh\(_0\)(D) immune globulin RBC complexes, which are preferentially removed by the reticuloendothelial system, particularly the spleen. This results inFc receptor blockade, thus sparing antibody-coated platelets.\textsuperscript{8}

12.2 Pharmacokinetics
Suppression of Rh Isoimmunization
In a clinical study comparing the pharmacokinetics of intravenous versus intramuscular administration, 15 Rh\(_0\)(D)-negative pregnant women received a single 1500 IU (300 mcg) dose of Rhophylac at Week 28 of gestation.\textsuperscript{9} Following intravenous administration, peak serum levels of Rh\(_0\)(D) immune globulin ranged from 62 to 84 ng/mL after 1 day (i.e., the time the first blood sample was taken following the antepartum dose). Mean systemic clearance was 0.20 ± 0.03 mL/min, and half-life was 16 ± 4 days.

Following intramuscular administration, peak serum levels ranged from 7 to 46 ng/mL and were achieved between 2 and 7 days. Mean apparent clearance was 0.29 ± 0.12 mL/min, and half-life was 18 ± 5 days. The absolute bioavailability of Rhophylac was 69\%. Regardless of the route of administration, Rh\(_0\)(D) immune globulin titers were detected in all women up to at least 9 weeks following administration of Rhophylac.

ITP
Pharmacokinetic studies with Rhophylac were not performed in Rh\(_0\)(D)-positive subjects with ITP. Rh\(_0\)(D) immune globulin binds rapidly to Rh\(_0\)(D)-positive erythrocytes.\textsuperscript{10}

14 CLINICAL STUDIES

14.1 Suppression of Rh Isoimmunization
In two clinical studies, 447 Rh\(_0\)(D)-negative pregnant women received a 1500 IU (300 mcg) dose of Rhophylac during Week 28 of gestation. The women who gave birth to an Rh\(_0\)(D)-positive baby received a second 1500 IU (300 mcg) dose within 72 hours of birth.

- **Study 1 (Pharmacokinetic Study)** – Eight of the women who participated in the pharmacokinetic study [see Clinical Pharmacology (12.3)] gave birth to an Rh\(_0\)(D)-positive baby and received the postpartum dose of 1500 IU (300 mcg) of Rhophylac.\textsuperscript{9} Antibody tests performed 6 to 8 months later were negative for all women. This suggests that no Rh\(_0\)(D) immunization occurred.

- **Study 2 (Pivotal Study)** – In an open-label, single-arm clinical study at 22 centers in the US and United Kingdom, 432 pregnant women received the antepartum dose of 1500 IU (300 mcg) of Rhophylac either as an intravenous or intramuscular injection (two randomized groups of 216 women each).\textsuperscript{11} Subjects received an additional 1500 IU (300 mcg) dose if an obstetric complication occurred between the routine antepartum dose and birth or if extensive fetomaternal hemorrhage was measured after birth. Of the 270 women who gave birth to an Rh\(_0\)(D)-positive baby, 248 women were evaluated for Rh\(_0\)(D) immunization 6 to 11.5 months postpartum. None of these women developed antibodies against the Rh\(_0\)(D) antigen.

14.2 ITP
In an open-label, single-arm, multicenter study, 98 Rh\(_0\)(D)-positive adult subjects with chronic ITP and a platelet count of 30 x 10\(^9\)\/L or less were treated with Rhophylac. Subjects received a single intravenous dose of 250 IU (50 mcg) per kg body weight. The primary efficacy endpoint was the response rate defined as achieving a platelet count ≥30 x 10\(^9\)\/L as well as an increase of >20 x 10\(^9\)\/L within 15 days after treatment with Rhophylac. Secondary efficacy endpoints included the response rate defined as an increase in platelet counts to ≥50 x 10\(^9\)\/L within 15 days after treatment and, in subjects who had bleeding at baseline, the regression of hemorrhage defined as any decrease from baseline in the severity of overall bleeding status.

Table 4 presents the primary response rates for the intent-to-treat (ITT) and per-protocol (PP) populations.
The primary efficacy response rate (ITT population) demonstrated a clinically relevant response to treatment, i.e., the lower bound of the 95% confidence interval (CI) was greater than the predefined response rate of 50%. The median time to platelet response was 3 days, and the median duration of platelet response was 22 days. Table 5 presents the response rates by baseline platelet count for subjects in the ITT population.

**Table 4: Primary Response Rates (ITT and PP Populations)**

<table>
<thead>
<tr>
<th>Analysis Population</th>
<th>No. Subjects</th>
<th>No. Responders</th>
<th>Primary Response Rate at Day 15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>% Responders</td>
</tr>
<tr>
<td>ITT</td>
<td>98</td>
<td>65</td>
<td>66.3%</td>
</tr>
<tr>
<td>PP</td>
<td>92</td>
<td>62</td>
<td>67.4%</td>
</tr>
</tbody>
</table>

The primary efficacy response rate (ITT population) demonstrated a clinically relevant response to treatment, i.e., the lower bound of the 95% confidence interval (CI) was greater than the predefined response rate of 50%. The median time to platelet response was 3 days, and the median duration of platelet response was 22 days. Table 5 presents the response rates by baseline platelet count for subjects in the ITT population.

**Table 5: Response Rates By Baseline Platelet Count (ITT Population)**

<table>
<thead>
<tr>
<th>Baseline Platelet Count (x 10^9/L)</th>
<th>Total No. Subjects</th>
<th>No. (%) Subjects ACHIEVING A Platelet Count of ≥30 x 10^9/L AND an Increase of &gt;20 x 10^9/L</th>
<th>No. (%) Subjects With an Increase in Platelet Counts to ≥50 x 10^9/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤10</td>
<td>38</td>
<td>15 (39.5)</td>
<td>10 (26.3)</td>
</tr>
<tr>
<td>&gt;10 to 20</td>
<td>28</td>
<td>22 (78.6)</td>
<td>17 (60.7)</td>
</tr>
<tr>
<td>&gt;20 to 30</td>
<td>27</td>
<td>24 (88.9)</td>
<td>22 (81.5)</td>
</tr>
<tr>
<td>&gt;30*</td>
<td>5</td>
<td>4 (80.0)</td>
<td>5 (100.0)</td>
</tr>
<tr>
<td>Overall (all subjects)</td>
<td>98</td>
<td>65 (66.3)</td>
<td>54 (55.1)</td>
</tr>
</tbody>
</table>

* Reflects subjects with a platelet count of ≥40 x 10^9/L at screening but <30 x 10^9/L immediately before treatment.

During the study, an overall regression of hemorrhage was seen in 44 (88%, 95% CI: 76% to 94%) of the 50 subjects with bleeding at baseline. The percentage of subjects showing a regression of hemorrhage increased from 20% to Day 2 to 64% at Day 15. There was no evidence of an association between the overall hemorrhage regression rate and baseline platelet count. Approximately half of the 98 subjects in the ITT population had evidence of bleeding at baseline. Post-baseline, the percentage of subjects without bleeding increased to a maximum of 70.4% at Day 8.

**References**


**16 HOW SUPPLIED/STORAGE AND HANDLING**

16.1 How Supplied

- Rhophylac 1500 IU (300 mcg) is supplied in packages of one or ten (10) prefilled, ready-to-use, glass syringes(s), each containing 2 ml liquid for injection. Each syringe is accompanied by a SafetyGlide™ needle for intravenous or intramuscular use.

Each product presentation includes a package insert and the following components:

<table>
<thead>
<tr>
<th>Presentation</th>
<th>Carton NDC Number</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500 IU (300 mcg)</td>
<td>44206-300-01</td>
<td>Single-use, prefilled 2 mL syringe [NDC 44206-300-90]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SafetyGlide needle</td>
</tr>
<tr>
<td>1500 IU (300 mcg) Multipack</td>
<td>44206-300-10</td>
<td>Ten single-use, prefilled 2 mL syringes [NDC 44206-300-90]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ten SafetyGlide needles</td>
</tr>
</tbody>
</table>

16.2 Storage and Handling

- DO NOT FREEZE.
- Rhophylac contains no preservatives; do not store at room temperature.
- Store at 2 to 8°C (36 to 46°F) for a shelf life of 36 months from the date of manufacture, as indicated by the expiration date printed on the outer carton and syringe label.
- Keep Rhophylac in its original carton to protect it from light.
- The prefilled Rhophylac syringe is not made with natural rubber latex.

**17 PATIENT COUNSELING INFORMATION**

Both Indications

- Inform patients to immediately report the following signs and symptoms to their physician: hives, chest tightness, wheezing, hypotension, and anaphylaxis [see Warnings and Precautions (5.1)].
- Inform patients that Rhophylac is made from human blood and may contain infectious agents that can cause disease (e.g., viruses and, theoretically, the CJD agent). Explain that the risk Rhophylac may transmit an infectious agent has been reduced by screening all plasma donors, by testing the donated plasma for certain viruses, and by inactivating and/or removing certain viruses during manufacturing. Advise patients to report any symptoms that concern them and that may be related to viral infections [see Warnings and Precautions (5.1.3)].
- Inform patients that Rhophylac may interfere with the response to live virus vaccines (e.g., measles, mumps, rubella, and varicella), and instruct them to notify their healthcare professional of this potential interaction when they are receiving vaccinations.

Suppression of Rh Isoimmunization

- Inform patients receiving the antepartum dose of Rhophylac for suppression of Rh isoimmunization that they will need a second dose within 72 hours of birth if the baby’s blood type is Rh-positive.

**ITP**

- Instruct patients being treated with Rhophylac for ITP to immediately report the following signs and symptoms to their healthcare professional of this potential interaction when they are receiving vaccinations.

**Manufactured by:**

CSL Behring AG
Bern, Switzerland
US License No. 1766

**Distributed by:**

CSL Behring LLC
Kankakee, IL 60901 USA

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