Announcing a New Arrival: Rhophylac is now provided in a NEW TWIST OFF syringe closure system.
Rhophylac Syringes: Two Different Closure Systems

Up to September 2013, Rhophylac syringes were supplied with a white closure system known as V-OVS tamper-evident closure. Since September 2013, a different closure system has been implemented for Rhophylac syringes. An element of the BD Hypak™ PRTC system, this closure features a plastic rigid tip cap with a Luer-Lok™ adaptor.

In the future, Rhophylac will be exclusively manufactured with the PRTC closure system. However, for a limited time, product will be delivered to customers that could have either of the two closure systems. Since the two closure systems must be handled differently, we would like to briefly describe the handling and opening of each.

Handling and Opening of The V-OVS (White) Closure System

1. Hold the syringe upright on the ribbed part of the white closure system.
2. With the other hand, take hold of the white cap of the closure system and gently tilt back and forth until the cap disconnects and can be pulled off (seal will be broken).
3. Remove the cap in straight upward direction.

Please see Important Safety Information on the back cover, and enclosed full prescribing information and boxed warning for ITP indication in pocket.
The New Arrival:
Twist Off PRTC Closure System

Handling and Opening of The PRTC (Transparent/Gray) Closure System

1. Hold the syringe upright on the glass barrel or on the transparent part of the closure system.
2. With the other hand, take hold of the grey cap of the PRTC closure system and unscrew until the cap can be pulled off.

Improper handling of the PRTC closure system can damage the syringe irreversibly (typically the luer conus will break).

To order Rhophylac, call 1-800-683-1288.
For more information, visit Rhophylac.com

If you have any questions regarding this information, please contact your Rhophylac Specialist:
Tim Rice: + 484 535 2636 or Kim Balser: + 330 398 4799

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.

Please see Important Safety Information on the back cover, and enclosed full prescribing information and boxed warning for ITP indication in pocket.
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, non-splenectomized adult patients with chronic 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 Rh(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 or Intramuscular 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 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.

INDICATIONS AND USAGE
Rhophylac is an Rh(D) Immune Globulin Intravenous (Human) indicated for:

- Suppression of Rhesus (Rh) isoimmunization (1.1) in:
  - Pregnancy and obstetric conditions in non-sensitized, Rh(D) negative women with an Rh-incompatible pregnancy, including:
    - Routine antepartum and postpartum Rh prophylaxis
    - Rh prophylaxis in obstetric complications or invasive procedures
  - Incompatible transfusions in Rh(D)-negative individuals transfused with blood components containing Rh(D)-positive red blood cells (RBCs)
- Immune Thrombocytopenic Purpura (ITP) (1.2)
Raising platelet counts in Rh(D)-positive, non-splenectomized adults with chronic ITP

DOSAGE AND ADMINISTRATION

- Suppression of Rh Isoimmunization (2.2)
- Intravenous or intramuscular administration
- Pregnancy and obstetric conditions
  - Rh-incompatible pregnancy – 1500 IU (300 mcg) at Week 28-30 of gestation and another 1500 IU (300 mcg) within 72 hours of birth of an Rh(D)-positive baby
  - Obstetric complications/invasive procedures – 1500 IU (300 mcg) within 72 hours of the at-risk event
  - Excessive fetomaternal hemorrhage – 1500 IU (300 mcg) within 72 hours plus 100 IU (20 mcg) per mL fetal RBCs >15 mL (excess transplacentals bleeding quantified) or another 1500 IU (300 mcg) (excess transplacentals bleeding not quantified)

ADVERSE REACTIONS
- The most common adverse reactions, reported in >14% of subjects, are chills, pyrexia, pneumonia, headache, and fever.
- The most common severe adverse reactions, reported in >1% of subjects, are periorbital edema, urticaria, anaphylactic reaction, and 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.

DRUG INTERACTIONS
- Immune globulin administration may transiently interfere with the immune response to live virus vaccines, such as measles, mumps, and rubella.

How Supplied
- Solution for intravenous or intramuscular injection: 1500 IU (300 mcg) per vial

PATIENT COUNSELING INFORMATION
- To report SUSPECTED ADVERSE REACTIONS, contact CSL Behring Pharmacovigilance at 1-866-915-6958 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

SUPPLEMENTS
- Intravascular hemolysis has occurred in a clinical study; monitor patients for signs and symptoms and perform confirmatory laboratory tests.
- In ITP patients with pre-existing anemia, weigh the benefits of Rhophylac vs. the potential risk of increasing the severity of the anemia.

See 17 for PATIENT COUNSELING INFORMATION.

Revised: 08/2012

FULL PRESCRIBING INFORMATION: CONTENTS*
1 INDICATIONS AND USAGE
  1.1 Suppression of Rh Isoimmunization
  1.2 ITP
2 DOSAGE AND ADMINISTRATION
  2.1 Preparation and Handling
  2.2 Suppression of Rh Isoimmunization
  2.3 ITP
3 DOSAGE FORMS AND STRENGTHS
4 CONTRAINDICATIONS
5 WARNINGS AND PRECAUTIONS
  5.1 Both Indications
  5.1.1 Hypersensitivity
  5.1.2 Interference With Laboratory Tests
  5.1.3 Transmissible Infectious Agents
  5.2 Suppression of Rh Isoimmunization
  5.2.1 Postpartum Use Following an Rh-Incompatible Pregnancy
  5.3 ITP
  5.3.1 Intravascular Hemolysis
  5.3.2 Pre-existing Anemia
6 ADVERSE REACTIONS
  6.1 Clinical Studies Experience
  6.2 Postmarketing Experience

7 DRUG INTERACTIONS
  7.1 Live Virus Vaccines
8 USE IN SPECIFIC POPULATIONS
  8.1 Pregnancy
  8.3 Nursing Mothers
  8.4 Pediatric Use
  8.5 Geriatric Use
10 OVERDOSAGE
11 DESCRIPTION
12 CLINICAL PHARMACOLOGY
  12.1 Mechanism of Action
  12.3 Pharmacokinetics
14 CLINICAL STUDIES
  14.1 Suppression of Rh Isoimmunization
  14.2 ITP
15 REFERENCES
16 HOW SUPPLIED/STORAGE AND HANDLING
17 PATIENT COUNSELING INFORMATION
  17.1 Both Indications
  17.2 Suppression of Rh Isoimmunization
  17.3 ITP

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

1 INDICATIONS AND USAGE

1.1 Suppression of Rh Isoimmunization

Pregnancy and Obstetric Conditions

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

1.2 ITP

An Rh-incompatible pregnancy is assumed if the fetus/baby is either Rh0(D)-positive or Rh0(D)-negative women with an Rh-incompatible pregnancy, including:

- Routine antepartum and postpartum Rh prophylaxis
- Rh prophylaxis in cases of:
  - Obstetric complications (e.g., miscarriage, abortion, threatened abortion, ectopic pregnancy or hydatidiform mole, transplacental hemolysis resulting from antepartum hemorrhage)
  - Invasive procedures during pregnancy (e.g., amniocentesis, chorionic biopsy) or obstetric manipulative procedures (e.g., external version, abdominal trauma)

Incompatible Transfusions

Rhophylac is indicated for the suppression of Rh isoimmunization in Rh0(D)-negative individuals transfused with Rh0(D)-positive red blood cells (RBCs) or blood components containing Rh0(D)-positive RBCs.

Treatment can be given without a preceding exchange transfusion when the transfused blood represents less than 20% of the total circulating RBCs. If the volume exceeds 20%, an exchange transfusion should be considered prior to administering Rhophylac.

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.
- 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.

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></td>
<td></td>
</tr>
<tr>
<td>Routine antepartum prophylaxis</td>
<td>At Week 28-30 of gestation</td>
<td>1500 IU (300 mcg)</td>
</tr>
<tr>
<td>Postpartum prophylaxis (required only if the newborn is Rh0(D)-positive)</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 hemolysis resulting from antepartum hemorrhage)</td>
<td>Within 72 hours of complication</td>
<td>1500 IU (300 mcg)</td>
</tr>
<tr>
<td>Invasive procedures during pregnancy (e.g., amniocentesis, chorionic biopsy) or obstetric manipulative procedures (e.g., external version, abdominal trauma)</td>
<td>Within 72 hours of procedure</td>
<td>1500 IU (300 mcg)</td>
</tr>
<tr>
<td>Excessive fetomaternal hemorrhage (&gt;15 mL)</td>
<td>Within 72 hours of complication</td>
<td>1500 IU (300 mcg) plus:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 100 IU (20 mcg) per mL fetal RBCs in excess of 15 mL if excess transplacental bleeding is quantified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• An additional 1500 IU (300 mcg) dose if excess transplacental bleeding cannot be quantified</td>
</tr>
</tbody>
</table>

Incompatible transfusions

Within 72 hours of exposure

100 IU (20 mcg) per 2 mL transfused blood or per 1 mL erythrocyte concentrate

IU, international units; mcg, micrograms.

* A 1500 IU (300 mcg) dose of Rhophylac will suppress the immunizing potential of a 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.

2.3 ITP

For treatment of ITP, ADMINISTER RHOPHYLAC BY THE INTRAVENOUS ROUTE ONLY (see Preparation and Handling [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

Rhophylac should be administered at a rate of 2 mL per 15 to 60 seconds.

3 DOSAGE FORMS AND STRENGTHS

1500 IU (300 mcg) per 2 mL prefilled, ready-to-use, glass syringe

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.

5 WARNINGS AND PRECAUTIONS

5.1 Both Indications

5.1.1 Hypersensitivity

Severe hypersensitivity reactions may occur. 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.

CSL Behring
FULL PRESCRIBING INFORMATION

Rhophylac®
Rh0(D) Immune Globulin Intravenous (Human)

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).

* 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. 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 hematuria. Absence of these signs and/or symptoms within 8 hours does not indicate IIVH 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).

Table 1 provides dosing guidelines based on the condition being treated.
The most serious adverse reactions in patients receiving Rh 0(D) Immune Globulin

6 ADVERSE REACTIONS

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 prior exposure to certain viruses, setting 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 Suppression of Rh Isoimmunization

5.2.1 Postpartum Use Following an Rh-incompatible Pregnancy

Administer Rhophylac to the mother only. Do not administer to the newborn infant (see Pediatric Use [8.4]).

5.3 ITP

5.3.1 Intravascular Hemolysis

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

Closely 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 hematuria. 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, Rh(D)-negative packed RBCs should be used to avoid exacerbating ongoing hemolysis.

5.3.2 Pre-existing Anemia

The safety of Rhophylac in the treatment of ITP has not been established in patients with pre-existing anemia. The physician must weigh the benefits of Rhophylac against the potential risk of increasing the severity of the anemia.

6 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, Warnings and Precautions [5.3.1]).

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. Mild 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 (0.3%). A laboratory finding of a transient positive anti-C antibody test was observed in 0.9% of subjects.

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. Eighty-four (85.7%) subjects experienced 392 treatment-emergent adverse events (TEAEs). Sixty-nine (70.4%) subjects had 186 drug-related TEAEs (defined as TEAEs with a probable, possible, definite, or unknown relationship to the study drug). Within 24 hours of dosing, 73 (74.5%) subjects experienced 183 TEAEs, and 66 (67%) subjects experienced 156 drug-related TEAEs.

Mild 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 TEAEs observed in the clinical study.

Table: Most Common Treatment-Emergent Adverse Events (TEAEs) in Subjects with ITP

<table>
<thead>
<tr>
<th>TEAE</th>
<th>Number of Subjects (%) With a TEAE</th>
<th>Number of Subjects (%) With a Drug-Related TEAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chills</td>
<td>34 (34.7%)</td>
<td>34 (34.7%)</td>
</tr>
<tr>
<td>Pyrexia/ Increased body temperature</td>
<td>32 (32.6%)</td>
<td>30 (30.6%)</td>
</tr>
<tr>
<td>Increased blood bilirubin</td>
<td>21 (21.4%)</td>
<td>21 (21.4%)</td>
</tr>
<tr>
<td>Headache</td>
<td>14 (14.3%)</td>
<td>11 (11.2%)</td>
</tr>
</tbody>
</table>

* Defined as TEAEs with a possible, probable, definite, or unknown relationship to the study drug.

Serious adverse events (SAEs) were reported in 10 (10.2%) subjects. SAEs considered to be drug-related 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, diarreah and back pain have been reported. Transient injection-site irritation and pain have been observed following intramuscular administration.

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 [17.1]).

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

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

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(D)-negative women for suppression of Rh isoimmunization.
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 purification.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action
Suppression of Rh Isoimmunization

The mechanism by which Rh(D) immune globulin suppresses immunization to Rh(D)-positive RBCs is not completely known. In a clinical study of Rh(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(D)-positive RBCs resulted in an effective clearance of Rh(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(D)-positive subjects with chronic ITP. The mechanism of action is thought to involve the formation of Rh(D) immune globulin RBC complexes, which are preferentially removed by the reticuloendothelial system, particularly the spleen. This results in Fc receptor blockade, thus sparing antibody-coated platelets.

12.3 Pharmacokinetics
Suppression of Rh Isoimmunization

In a clinical study comparing the pharmacokinetics of intravenous versus intramuscular administration, 15 Rh(D)-negative pregnant women received a single 1500 IU (300 mcg) dose of Rhophylac at Week 28 of gestation. Following intravenous administration, peak serum levels of Rh(D) immune globulin ranged from 62 to 84 ng/mL after 1 day (i.e., 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 mg/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(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(D)-positive subjects with ITP. Rh(D) immune globulin binds rapidly to Rh(D)-positive erythrocytes.

14 CLINICAL STUDIES

14.1 Suppression of Rh Isoimmunization

In two clinical studies, 447 Rh(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(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(D)-positive baby and received the postpartum dose of 1500 IU (300 mcg) of Rhophylac. Antibody tests performed 6 to 8 months later were negative for all women. This suggests that no Rh(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). 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(D)-positive baby, 248 women were evaluated for Rh(D) immunization 6 to 11.5 months postpartum. None of these women developed antibodies against the Rh(D) antigen.

14.2 ITP

In an open-label, single-arm, multicenter study, 98 Rh(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 of ≥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.

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>MVM</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>
<tr>
<td>Manufacturing</td>
<td>Mean LRF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>Solvent/detergent treatment</td>
<td>≥5.0</td>
<td>≥5.6</td>
<td>≥5.4</td>
</tr>
<tr>
<td></td>
<td>Chromatographic process steps</td>
<td>4.5</td>
<td>≥3.9</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Virus filtration</td>
<td>≥6.3</td>
<td>≥5.6</td>
<td>≥5.5</td>
</tr>
<tr>
<td>Overall reduction (log units)</td>
<td>≥16.8</td>
<td>≥15.1</td>
<td>≥12.5</td>
<td>≥6.0</td>
</tr>
</tbody>
</table>

HIV, a model for HIV-1 and HIV-2; PRV, pseudorabies virus, a model for large, enveloped DNA viruses (e.g., herpes virus); BVDV, bovine viral diarrhea virus, a model for HCV and West Nile virus; MVM, minute virus of mice, a model for B19V and other small, non-enveloped DNA viruses.
1. Gaines AR. Disseminated intravascular coagulation associated with acute
15 REFERENCES
maximum of 70.4% at Day 8.
post-baseline, the percentage of subjects without bleeding increased to a
approximately half of the 98 subjects in the ITT population had evidence of bleeding
and baseline platelet count.
There was no evidence of an association between the overall hemorrhage regression rate
showing a regression of hemorrhage increased from 20% at Day 2 to 64% at Day 15.
* Reflects subjects with a platelet count of
30 × 10^9/L at screening but >30 × 10^9/L immediately before treatment.
Overall
98
65
0.20
74.9%
ITT
98
65
66.3%
56.5%, 74.9%
PP
92
62
67.4%
57.3%, 76.1%
Table 4: Primary Response Rates (ITT and PP Populations)

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

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
increased from 20% at Day 2 to 64% at Day 15. There was no evidence of an association
with the overall hemorrhage regression rate and baseline platelet count.
Approximately half of the 98 subjects in the ITT population had evidence of bleeding
to baseline. Post-baseline, the percentage of subjects without bleeding increased to a
maximum of 70.4% at Day 8.
15 REFERENCES
1. Gaines AR. Disseminated intravascular coagulation associated with acute
hemoglobinemia or hemoglobinuria following Rh(D) immune globulin intravenous
administration for immune thrombocytopenic purpura. Blood. 2005;106:1532-
1537.
2. Pollack W, Ascari WQ, Kochesky RJ, O’Connor RR, Ho TY, Tripodi D. Studies on Rh
prophylaxis. 1. relationship between doses of anti-Rh and size of antigenic stimulus.
Transfusion. 1971;11:333-339.
3. Thornton JG, Page C, Foote G, Arthur GR, Tovey LAD, Scott JS. Efficacy and long
term effects of antenatal prophylaxis with anti-D immunoglobulin. Br Med J.
chromatographically produced anti-D immunoglobulin product. J Chromatogr B.
5. Horowitz B, Chin S, Prince AM, Brotman B, Pascual D, Williams B. Preparation and
characterization of S/D-FFP, a virus sterilized “fresh frozen plasma”. J Thromb
detergent-treated plasma: a virus-inactivated substitute for fresh frozen plasma.
7. Lazarus AH, Crow AR. Mechanism of action of IVIG and anti-D in ITP. Transfus
8. Bichler J, Schön Dorfer G, Pabst G, Andresen I. Pharmacokinetics of anti-D IgG in
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 5 presents the response rates by baseline platelet count for subjects in the 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 ≥30 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% at 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
to baseline. Post-baseline, the percentage of subjects without bleeding increased to a
maximum of 70.4% at Day 8.

17 PATIENT COUNSELING INFORMATION
17.1 Both Indications
• Inform patients to immediately report the following signs and symptoms to their
physician: hives, chest tightness, wheezing, hypotension, and anaphylaxis.
• 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.
• Inform patients that Rhophylac may interfere with the response to live virus
counters (e.g., measles, mumps, rubella, and varicella), and instruct them to notify
their healthcare professional of this potential interaction when they are receiving
counters.

17.2 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.

17.3 ITP
• Instruct patients being treated with Rhophylac for ITP to immediately report
symptoms of intravascular hemolysis, including back pain, shaking chills, fever,
discolored urine, decreased urine output, sudden weight gain, edema, and/or
shortness of breath.

Manufactured by:
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Bern, Switzerland
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Kankakee, IL 60901 USA
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Planova® is a registered trademark of Asahi Kasei Medical Co., Ltd.
SafetyGlide™ is a trademark of Becton, Dickinson and Company

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>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>
</tbody>
</table>

16.2 Storage and Handling
• DO NOT FREEZE.
• 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.
• Rhophylac contains no preservatives.
• The prefilled Rhophylac syringe contains no latex.