CEPROTIN- protein c concentrate human
Baxalta US Inc

HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use CEPROTIN safely and effectively. See full prescribing information for CEPROTIN.

CEPROTIN [Protein C Concentrate (Human)] Lyophilized Powder for Solution for Injection
Initial U.S. Approval: 2010

INDICATIONS AND USAGE
CEPROTIN is indicated for patients with severe congenital Protein C deficiency for the prevention and treatment of venous thrombosis and purpura fulminans. CEPROTIN is indicated as a replacement therapy for pediatric and adult patients. (1.1)

DOSAGE AND ADMINISTRATION
Initiate treatment under the supervision of a physician experienced in using coagulation factors/inhibitors where monitoring of Protein C activity is feasible. (2.1)

<table>
<thead>
<tr>
<th>CEPROTIN Dosing Schedule for Acute Episodes, Short-term Prophylaxis and Long-term Prophylaxis*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Dose†</strong></td>
</tr>
<tr>
<td>Acute Episode / Short-term Prophylaxis‡</td>
</tr>
<tr>
<td>Long-term Prophylaxis</td>
</tr>
</tbody>
</table>

NA = Not applicable; Q = every.

* Dosing is based upon a pivotal clinical trial of 15 patients.
† The dose regimen should be adjusted according to the pharmacokinetic profile for each individual (2.1, 2.2)
‡ CEPROTIN should be continued until desired anticoagulation is achieved.

Store at 2°C – 8°C (36°F-46°F) and protect from light. Avoid freezing. Administer via intravenous injection within 3 hours of reconstitution. (16)

DOSAGE FORMS AND STRENGTHS
Blue Bar: Approximately 500 IU/vial (3)
Green Bar: Approximately 1000 IU/vial (3)
Each single-dose vial contains the following excipients: 8 mg/mL human albumin, 4.4 mg/mL trisodium citrate dihydrate and 8.8 mg/mL sodium chloride when reconstituted with the appropriate amount of diluent. (3)

CONTRAINDICATIONS
None. (4)

WARNINGS AND PRECAUTIONS
• Discontinue administration if symptoms of hypersensitivity/allergic reactions occur. (2.1, 5.1, 6.1)
• Made from pooled human plasma. The possibility of transmitting infectious agents cannot be ruled out. (5.2, 11)
• Simultaneous administration with tPA and/or anticoagulants may increase risk of bleeding. (5.3)
• Contains heparin. If heparin-induced thrombocytopenia is suspected, check platelet counts immediately and discontinue administration. (5.4)
• Contains sodium >200 mg. Patients on a low sodium diet and/or patients with renal impairment should be informed. (5.5)

ADVERSE REACTIONS
• The most serious and common adverse reactions observed in clinical trials were rash, itching and lightheadedness. (2.1, 5.1, 6.1)
• The most serious adverse reactions postmarketing were hemothorax and hypotension. (6.2)

To report SUSPECTED ADVERSE REACTIONS, contact Baxter Healthcare Corporation at 1-866-888-2472 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

DRUG INTERACTIONS
None known. (7)
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FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

1.1 Severe Congenital Protein C Deficiency

CEPROTIN is indicated for patients with severe congenital Protein C deficiency for the prevention and treatment of venous thrombosis and purpura fulminans. CEPROTIN is indicated as a replacement therapy for pediatric and adult patients.

2 DOSAGE AND ADMINISTRATION

2.1 General

Treatment with CEPROTIN should be initiated under the supervision of a physician experienced in replacement therapy with coagulation factors/inhibitors where monitoring of protein C activity is feasible.

CEPROTIN is administered by intravenous injection after reconstitution of the powder for solution for injection with Sterile Water for Injection. Allergic type hypersensitivity reactions are possible. See WARNINGS/PRECAUTIONS: Hypersensitivity/Allergic Reactions (5.1).

The dose, administration frequency and duration of treatment with CEPROTIN depends on the severity of the protein C deficiency, the patient's age, the clinical condition of the patient and the patient's plasma level of protein C. Therefore, the dose regimen should be adjusted according to the pharmacokinetic profile for each individual patient. See DOSAGE AND ADMINISTRATION: Protein C Activity Monitoring (2.2).

Table 1 provides the CEPROTIN dosing schedule for acute episodes, short-term prophylaxis and long-term prophylaxis.

**Table 1: CEPROTIN Dosing Schedule for Acute Episodes, Short-term Prophylaxis and Long-term Prophylaxis***

<table>
<thead>
<tr>
<th></th>
<th>Initial Dose †</th>
<th>Subsequent 3 Doses ‡</th>
<th>Maintenance Dose †</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Episode / Short-term Prophylaxis ‡</td>
<td>100-120 IU/kg</td>
<td>60 - 80 IU/kg Q 6 hours</td>
<td>45 - 60 IU/kg Q 6 or 12 hours</td>
</tr>
<tr>
<td>Long-term Prophylaxis</td>
<td>NA</td>
<td>NA</td>
<td>45 - 60 IU/kg Q 12 hours</td>
</tr>
</tbody>
</table>

NA = Not applicable; Q = every.

* Dosing is based upon a pivotal clinical trial of 15 patients.
† The dose regimen should be adjusted according to the pharmacokinetic profile for each individual (2.1, 2.2)
‡ CEPROTIN should be continued until desired anticoagulation is achieved.

An initial dose of 100-120 IU/kg for determination of recovery and half-life is recommended for acute episodes and short-term prophylaxis. Subsequently, the dose should be adjusted to maintain a target peak
protein C activity of 100%. After resolution of the acute episode, continue the patient on the same dose to maintain trough protein C activity level above 25% for the duration of treatment.

In patients receiving prophylactic administration of CEPROTIN, higher peak protein C activity levels may be warranted in situations of an increased risk of thrombosis (such as infection, trauma, or surgical intervention). Maintenance of trough protein C activity levels above 25% is recommended.

These dosing guidelines are also recommended for neonatal and pediatric patients. See USE IN SPECIFIC POPULATIONS: Pediatric Use (8.4) and CLINICAL PHARMACOLOGY: Pharmacokinetics (12.3).

2.2 Protein C Activity Monitoring

The measurement of protein C activity using a chromogenic assay is recommended for the determination of the patient's plasma level of protein C before and during treatment with CEPROTIN. The half-life of CEPROTIN may be shortened in certain clinical conditions such as acute thrombosis, purpura fulminans and skin necrosis. See CLINICAL PHARMACOLOGY: Pharmacokinetics (12.3). In the case of an acute thrombotic event, it is recommended that protein C activity measurements be performed immediately before the next injection until the patient is stabilized. After the patient is stabilized, continue monitoring the protein C levels to maintain the trough protein C level above 25%.

Patients treated during the acute phase of their disease may display much lower increases in protein C activity. Coagulation parameters should also be checked; however, in clinical trials data were insufficient to establish correlation between protein C activity levels and coagulation parameters.

2.3 Initiation of Vitamin K Antagonists

In patients starting treatment with oral anticoagulants belonging to the class of vitamin K antagonists, a transient hypercoagulable state may arise before the desired anticoagulant effect becomes apparent. This transient effect may be explained by the fact that protein C, itself a vitamin K-dependent plasma protein, has a shorter half-life than most of the vitamin K-dependent proteins (i.e. Factor II, IX and X).

In the initial phase of treatment, the activity of protein C is more rapidly suppressed than that of the procoagulant factors. For this reason, if the patient is switched to oral anticoagulants, protein C replacement must be continued until stable anticoagulation is obtained. Although warfarin-induced skin necrosis can occur in any patient during the initiation of treatment with oral anticoagulant therapy, individuals with severe congenital protein C deficiency are particularly at risk.

During the initiation of oral anticoagulant therapy, it is advisable to start with a low dose of the anticoagulant and adjust this incrementally, rather than use a standard loading dose of the anticoagulant.

2.4 Preparation of CEPROTIN [Protein C Concentrate (Human)]

Reconstitution: Use Aseptic Technique
1. Bring the CEPROTIN (powder) and Sterile Water for Injection, USP (diluent) to room temperature.
2. Remove caps from the CEPROTIN and diluent vials.
3. Cleanse stoppers with germicidal solution, and allow them to dry prior to use.
4. Remove protective covering from one end of the double-ended transfer needle and insert exposed needle through the center of the diluent vial stopper.
5. Remove protective covering from the other end of the double-ended transfer needle. Invert diluent vial over the upright CEPROTIN vial; then rapidly insert the free end of the needle through the CEPROTIN vial stopper at its center. The vacuum in the vial will draw in the diluent. If there is no vacuum in the vial, do not use the product, and contact Baxter Customer Service at 1-888-CEPROTIN (237-7684).
6. Disconnect the two vials by removing the needle from the diluent vial stopper. Then, remove the transfer needle from the CEPROTIN vial. Gently swirl the vial until all powder is dissolved. Be sure that CEPROTIN is completely dissolved; otherwise, active materials will be removed by the
2.5 Administration of CEPROTIN [Protein C Concentrate (Human)]

Administration: Use Aseptic Technique

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit.

After reconstitution, the solution is colorless to slightly yellowish and clear to slightly opalescent and essentially free from visible particles. Do not use the product if the solution does not meet these criteria. CEPROTIN should be administered at room temperature not more than 3 hours after reconstitution.

1. Attach the filter needle to a sterile, disposable syringe and draw back the plunger to admit air into the syringe.
2. Insert the filter needle into the vial of reconstituted CEPROTIN.
3. Inject air into the vial and then withdraw the reconstituted CEPROTIN into the syringe.
4. Remove and discard the filter needle in a hard-walled Sharps container for proper disposal. Filter needles are intended to filter the contents of a single vial of CEPROTIN only.
5. Attach a suitable needle or infusion set with winged adapter, and inject intravenously as instructed below under Administration by infusion.

Administration by Infusion

CEPROTIN should be administered at a maximum injection rate of 2 mL per minute except for children with a body weight of < 10 kg, where the injection rate should not exceed a rate of 0.2 mL/kg/minute.

3 DOSAGE FORMS AND STRENGTHS

CEPROTIN is available in single-dose vials that contain nominally 500 (blue color bar) or 1000 (green color bar) International Units (IU) human protein C and is reconstituted with 5 mL and 10 mL of Sterile Water for Injection, respectively to provide a single dose of human Protein C at a concentration of 100 IU/mL.

CEPROTIN, when reconstituted with the appropriate volume of diluent, contains the following excipients: 8 mg/mL human albumin, 4.4 mg/mL trisodium citrate dihydrate and 8.8 mg/mL sodium chloride.

4 CONTRAINDICATIONS

None.

5 WARNINGS AND PRECAUTIONS

5.1 Hypersensitivity / Allergic Reactions

CEPROTIN may contain traces of mouse protein and/or heparin as a result of the manufacturing process. Allergic reactions to mouse protein and/or heparin cannot be ruled out. If symptoms of hypersensitivity/allergic reaction occur, discontinue the injection/infusion. In case of anaphylactic shock, the current medical standards for treatment are to be observed.

5.2 Transmission of Infectious Agents

CEPROTIN is made from human plasma. Products made from human plasma may contain infectious agents, such as viruses, that can cause disease. The risk that such products will transmit an infectious agent has been reduced by screening plasma donors for prior exposure to certain viruses, by testing for...
the presence of certain current virus infections, and by inactivating and/or removing a broad range of
viruses during manufacture. See DESCRIPTION (11).

Despite these measures, such products can still potentially transmit disease. Because this product 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. **ALL infections thought by a physician
possibly to have been transmitted by this product should be reported by the physician or other
healthcare provider to Baxter Healthcare Corporation, at 1-866-888-2472. The physician should
discuss the risks and benefits of this product with the patient.**

Some viruses, such as Human Parvovirus B19 (B19V) or Hepatitis A, are particularly difficult to
remove or inactivate. B19V most seriously affects pregnant women (fetal infection), or immune-
compromised individuals. Symptoms of B19V infection include fever, drowsiness, chills and runny
nose followed about two weeks later by a rash and joint pain. Evidence of Hepatitis A may include
several days to weeks of poor appetite, tiredness, and low-grade fever followed by nausea, vomiting
and abdominal pain. Dark urine and a yellowed complexion are also common symptoms. Patients should
be encouraged to consult their physician if such symptoms appear.

Appropriate vaccination (hepatitis A and B) should be considered for patients in regular and/or repeated
receipt of human plasma-derived Protein C.

5.3 Bleeding Episodes

Several bleeding episodes have been observed in clinical studies. Concurrent anticoagulant medication
may have been responsible for these bleeding episodes. However, it cannot be completely ruled out that
the administration of CEPROTIN further contributed to these bleeding events.

Simultaneous administration of CEPROTIN and tissue plasminogen activator (tPA) may further increase
the risk of bleeding from tPA.

5.4 Heparin-induced Thrombocytopenia (HIT)

CEPROTIN contains trace amounts of heparin which may lead to Heparin-induced Thrombocytopenia.
The platelet count should be determined immediately and discontinuation of CEPROTIN should be
considered.

5.5 Low Sodium Diet / Renal Impairment

Patients on a low sodium diet should be informed that the quantity of sodium in the maximum daily dose
of CEPROTIN exceeds 200 mg. Patients with renal impairment should be monitored more closely for
sodium overload.

6 ADVERSE REACTIONS

6.1 Clinical Studies Experience

The most serious and common adverse reactions related to CEPROTIN treatment observed were
hypersensitivity or allergic reactions (itching and rash) and lightheadedness.

Because clinical studies are conducted under widely varying conditions, adverse reaction rates
observed in one clinical study of a drug cannot be directly compared with rates in the clinical studies of
the same drug or another drug and may not reflect the rates observed in practice.

The safety profile of CEPROTIN was based on 121 patients from clinical studies and compassionate
use in severe congenital Protein C deficiency. Duration of exposure ranged from 1 day to 8 years. One
patient experienced hypersensitivity/allergic reactions (itching and rash) and lightheadedness which
were determined by the investigator to be related to CEPROTIN.

No inhibiting antibodies to CEPROTIN have been observed in clinical studies. However, the potential
for developing antibodies cannot be ruled out.

6.2 Post-marketing Experience

The following adverse reactions have been identified during postapproval use of CEPROTIN: hemothorax, hypotension, hyperhydrosis, fever and restlessness. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

7 DRUG INTERACTIONS

No formal drug interaction studies have been conducted.

See WARNINGS AND PRECAUTIONS: Bleeding Episodes (5.3) for information regarding simultaneous administration of CEPROTIN and tissue plasminogen activator (tPA).

See DOSAGE AND ADMINISTRATION: Initiation of Vitamin K Antagonists (2.3) for information regarding use of CEPROTIN and vitamin K antagonists.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Pregnancy Category C. Animal reproduction studies have not been conducted with CEPROTIN. It is also not known whether CEPROTIN can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. CEPROTIN has not been studied for use in pregnancy.

8.2 Labor and Delivery

There has been one report of CEPROTIN exposure during labor and delivery with no adverse outcome. CEPROTIN has not been studied for use during labor and delivery.

8.3 Nursing Mothers

It is not known whether CEPROTIN is excreted in human milk. CEPROTIN has not been studied for use in nursing mothers.

8.4 Pediatric Use

Neonatal and pediatric subjects were included in several retrospective and prospective studies, evaluating the safety and effectiveness of CEPROTIN. Subjects were enrolled from as early as 2 days old throughout adolescence.

8.5 Geriatric Use

Clinical studies of CEPROTIN did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects.

8.6 Renal/Hepatic Impairment

No experience in the treatment of patients with renal and/or hepatic impairment is available.

10 OVERDOSAGE

No symptoms of overdose with CEPROTIN have been reported.

The maximum infusion rate administered in clinical studies were doses of up to 600 IU/kg body weight (BW)/day (150 IU/kg BW every 6 hours) of CEPROTIN. There have been no overdosages of CEPROTIN reported during clinical studies. In long-term prophylactic treatment of doses up to 291.7
IU/kg BW/day, no adverse events were reported.

11 DESCRIPTION

CEPROTIN [Protein C Concentrate (Human)] is manufactured from human plasma purified by a combination of filtration and chromatographic procedures, including a column of immobilized mouse monoclonal antibodies on gel beads. See WARNINGS/PRECAUTIONS: Transmission of Infectious Agents (5.2).

The manufacturing process for CEPROTIN includes processing steps designed to reduce the risk of viral transmission. Screening against potentially infectious agents begins with the donor selection process and continues throughout plasma collection and plasma preparation. Each individual plasma donation used in the manufacture of CEPROTIN is collected only at FDA-approved blood establishments and is tested by FDA licensed serological tests for Hepatitis B Surface Antigen (HBsAg), and for antibodies to Human Immunodeficiency Virus (HIV-1/HIV-2) and Hepatitis C Virus (HCV) in accordance with U.S. regulatory requirements. As an additional safety measure, plasma pools for manufacturing are tested for the presence of HIV-1 and HCV by FDA licensed Nucleic Acid Testing (NAT) and found negative.

To further improve the margin of safety, two dedicated, independent and effective virus inactivation steps (Polysorbate 80 [P80] treatment and vapor heating) have been integrated into the manufacturing process in addition to other purification steps such as immunoaffinity chromatography.

Comprehensive virus clearance studies have been performed for the following steps: P80 treatment alone or coupled with an ion exchange chromatography step (IEX I), immunoaffinity chromatography (IAX) and vapor heating. In each study, the validity of the downscaled process has been confirmed by measuring process and biochemical parameters and comparing these with data from the large-scale manufacturing process. Where applicable (i.e. for P80 treatment and for vapor heating), the robustness of virus clearance has also been investigated by adjusting critical process parameters to levels least favorable for virus inactivation (e.g. temperature and incubation time for vapor heating).

Virus clearance studies for CEPROTIN have demonstrated that the process provides for a robust overall virus clearance capacity. A summary of \log_{10} virus reduction factors per virus and manufacturing step is presented in the Table 2.

Table 2: Summary of Mean \log_{10} Virus Reduction Factors for the CEPROTIN Manufacturing Process

<table>
<thead>
<tr>
<th>Manufacturing Step</th>
<th>HIV-1</th>
<th>HCV Model Viruses</th>
<th>PRV</th>
<th>HAV</th>
<th>MMV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BVDV</td>
<td>TBEV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P80 Treatment</td>
<td>&gt;5.1</td>
<td>&gt;4.7</td>
<td>n.d.</td>
<td>2.5*</td>
<td>&gt;3.8*</td>
</tr>
<tr>
<td>IAX</td>
<td>5.7</td>
<td>n.d.</td>
<td>4.8</td>
<td>5.4</td>
<td>3.1</td>
</tr>
<tr>
<td>Vapor Heating</td>
<td>4.6</td>
<td>&gt;5.9</td>
<td>n.d.</td>
<td>5.9</td>
<td>&gt;4.2</td>
</tr>
</tbody>
</table>

* Coupled with IEX. I

Abbreviations: IEX, Ion Exchange Chromatography; IAX, Immunoaffinity Chromatography; HIV-1, Human Immunodeficiency Virus Type I; TBEV, Tick-Borne Encephalitis Virus (model for hepatitis C virus); BVDV, Bovine Viral Diarrhea Virus (model virus for HCV and other small, enveloped RNA viruses); PRV, Pseudorabies Virus (model virus for enveloped DNA viruses, e.g. HBV, Hepatitis B Virus); HAV, Hepatitis A Virus; MMV, Mice Minute Virus (model for Human Parvovirus B19 and for non enveloped viruses); n.d., not done.

CEPROTIN is supplied as a sterile, white or cream colored, lyophilized powder for IV injection. It has a pH between 6.7 and 7.3 and an osmolality not lower than 240 mosmol/kg. One International Unit (IU) of protein C corresponds to the amidolytically measured activity of protein C in 1 mL of normal plasma. The potency (IU) is determined using a chromogenic substrate method referenced against the World
12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Protein C is the precursor of a vitamin K-dependent anticoagulant glycoprotein (serine protease) that is synthesized in the liver. See DOSAGE AND ADMINISTRATION: Initiation of Vitamin K Antagonists (2.3). It is converted by the thrombin/thrombomodulin-complex on the endothelial cell surface to activated Protein C (APC). APC is a serine protease with potent anticoagulant effects, especially in the presence of its cofactor protein S. APC exerts its effect by the inactivation of the activated forms of factors V and VIII, which leads to a decrease in thrombin formation. APC has also been shown to have profibrinolytic effects.

The Protein C pathway provides a natural mechanism for control of the coagulation system and prevention of excessive procoagulant responses to activating stimuli. A complete absence of protein C is not compatible with life. A severe deficiency of this anticoagulant protein causes a defect in the control mechanism and leads to unchecked coagulation activation, resulting in thrombin generation and intravascular clot formation with thrombosis.

12.2 Pharmacodynamics

In clinical studies, the intravenous administration of CEPROTIN demonstrated a temporary increase, within approximately half an hour of administration, in plasma levels of protein C. Replacement of protein C in protein C-deficient patients is expected to control or, if given prophylactically, to prevent thrombotic complications.

12.3 Pharmacokinetics

Table 3 provides pharmacokinetic results for asymptomatic and symptomatic subjects with protein C deficiency.

<table>
<thead>
<tr>
<th>PK parameter</th>
<th>N</th>
<th>Median</th>
<th>95% CI for median</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&lt;sub&gt;max&lt;/sub&gt; [IU/dL]</td>
<td>21</td>
<td>110</td>
<td>106 to 127</td>
<td>40</td>
<td>141</td>
</tr>
<tr>
<td>T&lt;sub&gt;max&lt;/sub&gt; [h]</td>
<td>21</td>
<td>0.50</td>
<td>0.50 to 1.05</td>
<td>0.17</td>
<td>1.33</td>
</tr>
<tr>
<td>Incremental recovery [(IU/dL)/(IU/kg)]</td>
<td>21</td>
<td>1.42</td>
<td>1.32 to 1.59</td>
<td>0.50</td>
<td>1.76</td>
</tr>
<tr>
<td>Initial half-life [h]</td>
<td>21</td>
<td>7.8</td>
<td>5.4 to 9.3</td>
<td>3.0</td>
<td>36.1</td>
</tr>
<tr>
<td>Terminal half-life [h]</td>
<td>21</td>
<td>9.9</td>
<td>7.0 to 12.4</td>
<td>4.4</td>
<td>15.8</td>
</tr>
<tr>
<td>Half-life by the non-compartmental approach [h]</td>
<td>21</td>
<td>9.8</td>
<td>7.1 to 11.6</td>
<td>4.9</td>
<td>14.7</td>
</tr>
<tr>
<td>AUC&lt;sub&gt;0-Infinity&lt;/sub&gt; [IU*h/dL]</td>
<td>21</td>
<td>1500</td>
<td>1289 to 1897</td>
<td>344</td>
<td>2437</td>
</tr>
<tr>
<td>MRT [h]</td>
<td>21</td>
<td>14.1</td>
<td>10.3 to 16.7</td>
<td>7.1</td>
<td>21.3</td>
</tr>
<tr>
<td>Clearance [dL/kg/h]</td>
<td>21</td>
<td>0.0533</td>
<td>0.0428 to 0.0792</td>
<td>0.0328</td>
<td>0.2324</td>
</tr>
<tr>
<td>Volume of distribution at steady state [dL/kg]</td>
<td>21</td>
<td>0.74</td>
<td>0.70 to 0.89</td>
<td>0.44</td>
<td>1.65</td>
</tr>
</tbody>
</table>

C<sub>max</sub> = Maximum concentration after infusion; T<sub>max</sub> = Time at maximum concentration; AUC<sub>0-Infinity</sub> = Area under the curve from 0 to infinity; MRT = Mean residence time; and Incremental recovery = Maximum increase in Protein C concentration following infusion.
The protein C plasma activity was measured by chromogenic and/or clotting assay. The maximum plasma concentrations ($C_{\text{max}}$) and area under the plasma concentration-time curve (AUC) appeared to increase dose-linearly between 40 and 80 IU/kg. The median incremental recovery was 1.42 [(IU/dL)/(IU/kg)] after intravenous administration of CEPROTIN. The median half-lives, based on non-compartmental method, ranged from 4.9 to 14.7 hours, with a median of 9.8 hours. In patients with acute thrombosis, both the increase in protein C plasma levels as well as half-life may be considerably reduced. No formal study or analysis has been performed to evaluate the effect of covariates such as race and gender on the pharmacokinetics of CEPROTIN.

The pharmacokinetic profile in pediatric patients has not been formally assessed. Limited data suggest that the pharmacokinetics of CEPROTIN may be different between very young children and adults. The systemic exposure ($C_{\text{max}}$ and AUC) may be considerably reduced due to a faster clearance, a larger volume of distribution, and/or a shorter half-life of protein C in very young children than in older subjects. This fact must be considered when a dosing regimen for children is determined. Doses should be individualized based upon protein C activity levels. See DOSAGE AND ADMINISTRATION: Protein C Activity Monitoring (2.2).

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Protein C contained in CEPROTIN is a normal constituent of human plasma and acts like endogenous protein C. Studies in heterologous species to evaluate carcinogenicity, reproductive toxicology and developmental toxicology have not been performed.

CEPROTIN has not demonstrated mutagenic potential in the Salmonella Typhimurium reverse mutation assay (Ames test).

13.2 Animal Toxicology and/or Pharmacology

Safety Pharmacology:

Cardio-respiratory studies performed in dogs evaluating mean arterial pressure, cardiac output, systemic vascular resistance, heart rate, QT interval changes, pulmonary artery pressure, respiratory rate and respiratory minute volume demonstrated no adverse effects at a maximum dose of 500 IU/kg. Anaphylactoid reactions as determined by measurement of bronchospastic activity in guinea pigs demonstrated no adverse effects at the maximum dose of 300 IU/kg. Thrombogenic potential was evaluated in rabbits using the Wessler stasis model and demonstrated no adverse effects at 200 IU/kg. Overall, safety pharmacology studies evaluating cardio-respiratory function, acute dose anaphylactoid potential and thrombogenicity demonstrated no adverse effects in a range of doses from 1.6 to 4.2 times the maximum single human dosage per kilogram body weight.

Acute Dose Toxicity:

Toxicity testing in rats and mice following single dosing of 2000 IU/kg or 1500 IU/kg, respectively, demonstrated no adverse clinical effects or gross pathology at 14 days post dosing.

Repeated Dose Toxicity:

Studies were not conducted to evaluate repeated-dose toxicity in animals. Prior experience with CEPROTIN has suggested immunogenic response in heterologous species following repeated dosing of this human derived protein. Thus, the long-term toxicity potential of CEPROTIN following repeated dosing in animals is unknown.

Local Tolerance Testing:
Investigation of route of injection tolerance demonstrated that CEPROTIN did not result in any local reactions after intravenous, intra-arterial injections of 500 IU/kg (5 mL) and paravenous injections of 100 IU/kg (1 mL) in rabbits.

**Citrate Toxicity:**

CEPROTIN contains 4.4 mg of Trisodium Citrate Dihydrate (TCD) per mL of reconstituted product. Studies in mice evaluating 1000 IU vials reconstituted with 10 mL vehicle followed by dosing at 30 mL/kg (132 mg/kg TCD) and 60 mL/kg (264 mg/kg TCD) resulted in signs of citrate toxicity (dyspnea, slowed movement, hemoperitoneum, lung and thymus hemorrhage and renal pelvis dilation).

**14 CLINICAL STUDIES**

**14.1 Pivotal Study**

This was a multi-center, open-label, non-randomized, phase 2/3 study in 3 parts which evaluated the safety and efficacy of CEPROTIN in subjects with severe congenital protein C deficiency for the (on-demand) treatment of acute thrombotic episodes, such as purpura fulminans (PF), warfarin-induced skin necrosis (WISN) and other thromboembolic events, and for short-term or long-term prophylaxis. Eighteen subjects (9 male and 9 female), ages ranging from 0 (newborn) to 25.7 years participated in this study.

The clinical endpoint of the study was to assess whether episodes of PF and/or other thromboembolic events were treated effectively, effectively with complications, or not treated effectively. Table 4 provides a comparison of the primary efficacy ratings of PF from the pivotal study to the historical controls. Inadequate data is available for treatment of WISN.

**Table 4: Comparison of Primary Efficacy Ratings of Episodes of Purpura Fulminans in the Protein C Concentrate (Human) Pivotal Study to Historical Controls**

<table>
<thead>
<tr>
<th>Episode Type</th>
<th>Primary Efficacy Rating</th>
<th>Protein C Concentrate (Human) N</th>
<th>%</th>
<th>Historical Controls N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpura Fulminans</td>
<td>Effective</td>
<td>17</td>
<td>94.4</td>
<td>11</td>
<td>52.4</td>
</tr>
<tr>
<td></td>
<td>Effective with Complication</td>
<td>1</td>
<td>5.6</td>
<td>7</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>Not Effective</td>
<td>0</td>
<td>0.0</td>
<td>3</td>
<td>14.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>18</strong></td>
<td><strong>100.0</strong></td>
<td><strong>21</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

N = Number of episodes

Of 18 episodes of PF (6 severe, 11 moderate, 1 mild) treated with CEPROTIN for the primary efficacy rating, 17 (94.4%) were rated as effective, and 1 (5.6%) was rated as effective with complications; none (0%) were rated not effective. When compared with the efficacy ratings for 21 episodes of PF (historical control group), subjects with severe congenital protein C deficiency were more effectively treated with CEPROTIN than those treated with modalities such as fresh frozen plasma or conventional anticoagulants.

Table 5 provides a summary of the secondary treatment ratings for treatment of skin lesions and other thrombotic episodes from part one of the study.

**Table 5: Summary of Secondary Treatment Ratings for Treatment of Skin Lesions and Other Thrombotic Episodes - Protein C Concentrate (Human) Pivotal Study Part 1**
In a secondary efficacy rating, 13 (72.2%) of the 18 episodes of PF treated with CEPROTIN were rated as excellent, 4 (22.2%) were rated as good, and 1 (5.6%) episode of severe PF was rated as fair; all were rated as effective. Four (80%) of the 5 episodes of venous thrombosis had treatment ratings of excellent, while 1 (20%) was rated as good.

CEPROTIN was also demonstrated to be effective in reducing the size and number of skin lesions. Non-necrotic skin lesions healed over a maximum 12-day (median 4-day) period and necrotic skin lesions healed over a maximum 52-day (median 11-day) period of CEPROTIN treatment, as shown in Table 6.

### Table 6: Number of Days to Complete Healing of Skin Lesions in the Protein C Concentrate (Human) Pivotal Study

<table>
<thead>
<tr>
<th>Lesion Type</th>
<th>Number of Episodes (Number of Subjects)</th>
<th>Mean</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-necrotic</td>
<td>16 (9 subjects)</td>
<td>4.6</td>
<td>4.0</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Necrotic</td>
<td>7 (5 subjects)</td>
<td>21.1</td>
<td>11.0</td>
<td>5</td>
<td>52</td>
</tr>
</tbody>
</table>

Changes in the extent of venous thrombus were also measured for the 5 thromboembolic episodes. CEPROTIN prevented an increase in the extent of thrombus during 4 (80%) of the thromboembolic episodes by Day 3 of treatment, and 1 (20%) episode by Day 5 of treatment.

All seven of the short-term prophylaxis treatments with CEPROTIN were free of complications of PF or thromboembolic events, as shown in Table 7.

### Table 7: Summary of Complications During Short Term Prophylaxis in the Protein C Concentrate (Human) Pivotal Study

<table>
<thead>
<tr>
<th>Reason for Treatment</th>
<th>Number of Treatments</th>
<th>Presentation of Purpura Fulminans During Treatment Episodes</th>
<th>Thromboembolic Complications During Treatment Episode</th>
<th>Number of Treatments Free of Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticoagulation Therapy</td>
<td>3</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>3 100.0</td>
</tr>
<tr>
<td>Surgical Procedure</td>
<td>4</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>4 100.0</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>7 100.0</td>
</tr>
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</table>
No episodes of PF occurred in four subjects ranging from 42 to 338 days of long-term prophylactic treatment with CEPROTIN, as shown in Table 8. When not on prophylactic treatment and receiving CEPROTIN on-demand, the same four subjects experienced a total of 13 (median of 3) episodes of PF over a range of 19 to 323 days. The time to first episode of PF after exiting from long-term prophylaxis treatment ranged from 12 to 32 days for these four subjects.

Table 8: Number and Rate of Episodes of Skin Lesions or Thrombosis for Four Subjects Who Received Long-Term Prophylactic Treatment and Were Treated On-Demand in the Protein C Concentrate (Human) Pivotal Study

<table>
<thead>
<tr>
<th>Summary Statistic</th>
<th>Long-Term Prophylactic Treatment</th>
<th>While On-Demand*</th>
<th>Time to First Episode After Existing Long Term Prophylaxis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Episodes per Subject</td>
<td>Number of Days Receiving Prophylactic Treatment</td>
<td>Monthly Rate of Episodes</td>
</tr>
<tr>
<td>Mean</td>
<td>0</td>
<td>229</td>
<td>0.0</td>
</tr>
<tr>
<td>Median</td>
<td>0</td>
<td>268</td>
<td>0.0</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
<td>42</td>
<td>0.0</td>
</tr>
<tr>
<td>Maximum</td>
<td>0</td>
<td>338</td>
<td>0.0</td>
</tr>
</tbody>
</table>

* Total number of episodes while subjects were On-Demand was 13.

14.2 Retrospective Analysis

A retrospective study to capture dosing information and treatment outcome data in subjects with severe congenital protein C deficiency who were treated with CEPROTIN under an emergency use IND was also conducted. Eleven subjects (6 male and 5 female), ages ranging from 2.1 to 23.8 years participated in this study.

There were 28 acute episodes of PF/WISN and vascular thrombus reported in which time to resolution ranged from 0 to 46 days. The treatment outcome for these episodes was rated effective in all cases except one.

16 HOW SUPPLIED/STORAGE AND HANDLING

CEPROTIN is available in single-dose vials that contain the following nominal product strengths:

- **BLUE BAR**: 500 IU per vial: (NDC: 0944-4175-05)
- **GREEN BAR**: 1000 IU per vial: (NDC: 0944-4175-10)

Actual potency is printed on the vial label.

One package of CEPROTIN contains one glass vial of CEPROTIN powder, one glass vial of Sterile Water for Injection, USP, one transfer needle, one filter needle, one full prescribing physician insert and one patient package insert.

CEPROTIN, packaged for sale, is stable for 3 years when stored refrigerated at 2°C – 8°C (36°F - 46°F). Do not freeze in order to prevent damage to the diluent vial. Store the vial in the original carton to protect it from light. The reconstituted solution should be used within 3 hours of reconstitution. Do not use beyond the expiration date on the CEPROTIN vial.
Patients should be informed of the early signs of hypersensitivity reactions including hives, generalized urticaria, tightness of the chest, wheezing, hypotension and anaphylaxis, as the risk of an allergic type hypersensitivity reaction cannot be excluded. In addition, CEPROTIN may contain traces of mouse protein or heparin as a result of the manufacturing process. Allergic reactions to mouse protein or heparin cannot be ruled out. If symptoms of hypersensitivity/allergic reaction occur, patients should immediately discontinue the injection/infusion and inform their physician as soon as possible.

Prior to reconstitution, CEPROTIN should be protected from light.

Reconstitute the lyophilized CEPROTIN powder with the supplied diluent (Sterile Water for Injection) using the sterile transfer needle. Gently swirl the vial until all powder is dissolved.

Visually inspect the solution for discoloration and particulate matter. The reconstituted solution should be colorless to slightly yellowish and clear to slightly opalescent and essentially free from visible particles. CEPROTIN should not be administered if discoloration or particulate matter is observed. The solution is drawn through the sterile filter needle into a sterile disposable syringe.

The reconstituted solution contains no preservatives and is intended for single use only. Once reconstituted, it is recommended that the product be administered by intravenous injection within 3 hours. All unused solution, empty vials and used needles must be discarded appropriately.

The attached CEPROTIN (Protein C Concentrate [Human]) "Information For Patients" contains more detailed instructions on the preparation of CEPROTIN.

Baxter Healthcare Corporation
Westlake Village, CA 91362 USA

US License No. 140

This product, or its use, may be covered by one or more US Patents including US Patent No. 5,549,893 in addition to other patents pending.

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Revision Date: 03/2007

Information for Patients

CEPROTIN [Protein C Concentrate (Human)]

Pronounced: see PRO ten

Please read this leaflet carefully before using CEPROTIN [Protein C Concentrate (Human)]. This leaflet is based on the information provided to your doctor, and is a summary of the important information you need to know about your medicine for your severe congenital Protein C deficiency. This leaflet does not take the place of talking with your doctor and does not contain all of the information available about CEPROTIN. This leaflet should be used only after you have received instructions from your doctor. If you have any questions after reading this leaflet, ask your doctor or pharmacist.

1. What is CEPROTIN and what is it used for?

The name of your medicine is CEPROTIN, pronounced "see PRO ten".

CEPROTIN contains Protein C, a natural protein that is made in the liver and is present in your blood. Protein C is a part of human plasma that regulates the blood clotting (coagulation) system and prevents abnormal clot formation (thrombosis). Plasma is the liquid part of human blood.

CEPROTIN is used to treat patients with Severe Congenital Protein C Deficiency for the prevention and treatment of:

- venous thrombosis (blood clot in the vein), and
• purpura fulminans (blood spots, bruising and discoloring to skin as a result of clotting of small blood vessels in the skin).

2. How does CEPROTIN work?
CEPROTIN temporarily raises the levels of Protein C in the body. Protein C plays a major role in preventing your body from forming too many blood clots. CEPROTIN is for those patients who either don't produce enough Protein C or whose Protein C doesn't work correctly. CEPROTIN allows your body's blood clotting process to function properly.

3. Who should not use CEPROTIN?
You should not use CEPROTIN unless your doctor confirms that you have severe congenital Protein C deficiency.

You should tell your doctor about all your medical conditions.

Allergic to Mouse Protein or Heparin:
If you are known to have allergic-type reactions (rash, hives, itching, tightness of the chest, difficulty breathing, throat tightness, and low blood pressure) to mouse protein or to heparin, you should talk to your doctor before using this product. CEPROTIN contains small amounts of heparin and/or mouse protein as a result of the manufacturing process. If such a reaction occurs, you should discuss this with your doctor and your doctor will decide the right treatment.

Low Sodium Diet/Kidney Impairment:
You should talk with your doctor before using CEPROTIN if you are on a low sodium diet or have problems with your kidney, as the amount of sodium in the maximum daily dose of CEPROTIN exceeds 200 mg.

Pregnancy or Breast-feeding:
You should inform your doctor if you are pregnant or breast-feeding. Your doctor will decide if CEPROTIN may be used during pregnancy and/or breast-feeding.

Tell your doctor about all the medicines you are taking including prescription and nonprescription medicines, vitamins, and herbal supplements. You should also tell your doctor if you are on a special diet.

4. What is the most important information I need to know about CEPROTIN?
You could have an allergic reaction to CEPROTIN. You should be aware of the early signs of allergic reactions. These include: rash, hives, itching, tightness of the chest, difficulty breathing, throat tightness, and low blood pressure. The signs and symptoms of low blood pressure can include a weak pulse, feeling lightheaded or dizzy when you stand, and possibly shortness of breath. If you experience any of these symptoms while being treated with CEPROTIN, quickly stop the treatment and contact your doctor. If you experience a severe allergic reaction, including difficulty breathing and (near) fainting, you should quickly seek emergency treatment.

You could get an infectious disease since this drug product is made from human plasma. However, there are steps in the collection of the plasma and in the making of CEPROTIN to lessen this possibility. For example, blood and plasma donors are screened for certain viral infections. There are also steps in the processing of the plasma that can inactivate or remove viruses.

You could get an infection with a virus called Human Parvovirus B19 (B19 Virus). Fetuses are at risk to the B19 Virus. Symptoms of B19 Virus infection include fever, drowsiness, chills and runny nose followed about two weeks later by a rash and joint pain. Pregnant women should discuss this risk with their doctor.

Although, there are steps during the making of CEPROTIN to reduce the risk of getting Hepatitis A and B, your doctor may recommend that you be vaccinated against these viruses.
5. What are the possible side effects of CEPROTIN?

Like all medicines, CEPROTIN can cause side effects, although not everyone gets them. The most serious and common side effects to CEPROTIN observed in clinical trials were allergic reactions (rash and itching) and lightheadedness.

There have also been individual reports, after the drug was marketed, of thoracic hematoma (bleeding into the chest), hypotension (very low blood pressure), fever, restlessness and increased sweating.

You could develop antibodies that can prevent CEPROTIN from working properly and therefore reduce its effect. This has not been seen in clinical studies.

If you develop any side effects, including any not listed in this leaflet, please contact your doctor.

6. How do I use CEPROTIN?

CEPROTIN is given by intravenous administration (infusion into a vein). It is given to you under the close supervision of your doctor who is experienced in replacement therapy of coagulation factors/inhibitors and where monitoring of protein C activity is possible. Your dosage will vary depending upon your condition, your age and your body weight. Your doctor may require that you have blood taken to help determine the dose of CEPROTIN that you should get. See following Instructions for Use.

7. How do I store CEPROTIN?

You must store CEPROTIN in powder form, without the diluent (Sterile Water for Injection) added. You should store CEPROTIN in the refrigerator at 2°C to 8°C (36°F to 46°F). Store the vial in the original carton to protect it from light. Do not freeze in order to prevent damage to the diluent vial.

Do not use CEPROTIN beyond the expiration date printed on the CEPROTIN vial.

8. What are the ingredients in CEPROTIN?

Active ingredient: human Protein C

Other ingredients: human albumin, sodium chloride and trisodium citrate dihydrate

9. What does CEPROTIN look like?

CEPROTIN is a white or cream colored powder that is mixed with the water provided in the package (Sterile Water for Injection) before injection. After mixing with the Sterile Water for Injection, the solution is colorless to slightly yellowish and clear to slightly opalescent and mostly free from visible particles.

10. What are the contents of the CEPROTIN package?

CEPROTIN comes in the following strengths:

<table>
<thead>
<tr>
<th>BLUE-COLOR-BAR</th>
<th>Approximate dosage strength of 500 IU per vial</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREEN-COLOR-BAR</td>
<td>Approximate dosage strength of 1000 IU per vial</td>
</tr>
</tbody>
</table>

One package of CEPROTIN contains one vial of CEPROTIN powder, one vial of Sterile Water for Injection (diluent), one double-ended transfer needle, one filter needle, one full prescribing physician insert and one patient package insert.

11. How can I contact Baxter for more product information?

Baxter Customer Service: 1-888-CEPROTIN (237-7684)

Product website: www.ceprotin.com

INSTRUCTIONS FOR USE
CEPROTIN
Protein C Concentrate (Human)
(For intravenous use only)

IMPORTANT: Contact your doctor if you experience any problems with this procedure. These instructions are intended only as an aid for those patients who have been instructed by their doctor on the proper way to self-infuse the product. Do not attempt to self-infuse unless you have been taught how by your doctor.

1. Prepare a clean surface and gather all the materials you will need for the infusion. You will need to gather exam gloves (optional), alcohol swabs (or other suitable solution suggested by your doctor), a winged infusion set and a tourniquet, as these are not provided with your package of CEPROTIN.
2. Check the expiration date on the CEPROTIN vial. Do not use CEPROTIN after the expiration date.
3. Let the vial of CEPROTIN and the vial of Sterile Water for Injection, USP (diluent) warm up to room temperature.
4. Wash your hands and put on clean exam gloves (optional).
5. Remove caps from the CEPROTIN and diluent vial to expose the centers of the rubber stoppers.
6. Cleanse the stoppers with an alcohol swab (or other suitable solution suggested by your doctor) by rubbing the stoppers firmly for several seconds and allow them to dry.
7. Remove the protective covering from one end of the double-ended transfer needle and insert the exposed needle through the center of the diluent vial stopper.
8. While keeping the needle in the diluent vial, remove the protective covering from the other end of the double-ended transfer needle.
9. Invert the diluent vial over the upright CEPROTIN vial. Then, insert the free end of the needle through the CEPROTIN vial stopper at its center. The vacuum in the vial will draw in the diluent. If there is no vacuum in the CEPROTIN vial, do not use the product. Contact Baxter Customer Service.
10. Separate the two vials by removing the needle from the diluent vial stopper. Then, remove the transfer needle from the CEPROTIN vial. Do not attempt to recap the needle and do not dispose it in ordinary household trash. Place the needle in a hard-walled Sharps container for proper disposal.
11. Gently swirl the vial of CEPROTIN until all the powder is completely dissolved. The solution should be colorless to slightly yellowish and essentially free of visible particles. Do not use the solution if you see particles in it. CEPROTIN should be administered at room temperature within 3 hours of mixing.
12. Attach the filter needle to a disposable syringe and draw back the plunger to allow air into the syringe. Insert the filter needle into the reconstituted CEPROTIN.
13. Inject air into the vial, and then withdraw the solution into the syringe.
14. Remove and discard the filter needle from the syringe. Do not attempt to recap the needle and do not dispose it in ordinary household trash. Place the needle in a hard-walled Sharps container for proper disposal.
15. Attach a winged infusion set, if available, or a suitable needle (not supplied) for the injection.
16. Point the needle up and remove any air bubbles by gently tapping the syringe with your finger and slowly and carefully pushing air out of the syringe.
17. Apply a tourniquet, and prepare the injection site by wiping the skin well with an alcohol swab (or other suitable solution suggested by your doctor).
18. Insert the needle into the vein, and remove the tourniquet. Infuse CEPROTIN. CEPROTIN should be administered at a maximum injection rate of 2 milliters (mL) per minute except for children with a body weight of < 10 kg (22 pounds), where the injection rate should not exceed a rate of 0.2 mL per kilogram per minute.
19. Remove the needle from the vein and apply pressure with sterile gauze to the infusion site for several minutes. Do not attempt to recap the needle after the infusion, and do not dispose it in ordinary household trash. Place it with the used syringe in a hard-walled Sharps container for
20. Clean up any blood with a freshly prepared mixture of 1 part bleach and 9 parts water, soap and water, or any household disinfecting solution.

This product may be used under US Patent No. 5,549,893.

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**Baxter Healthcare Corporation**

Westlake Village, CA 91362

U.S. License No. 140

Revision date 05/2010

Important: Contact your doctor if you have any questions or experience any adverse effects. These instructions are intended as an additional aid only for those patients who have been instructed by their doctor on the proper way to self-infuse CEPROTIN. If you have not been instructed to self-infuse by your doctor, do not attempt to self-infuse.

**Principal display panel**

CEPROTIN 500 IU unit carton

Protein C Concentrate (Human)

CEPROTIN

NDC 0944-4175-05

Single-dose Vial

Lyophilized Powder for Solution for Injection

Rx Only.

Sterile - No preservative
NDC 0944-4175-01
Protein C Concentrate (Human)
CEPROTIN
Single-dose Vial
Lyophilized Powder for Solution for Injection.
For Intravenous Administration Only.
See package insert
Rx Only.
Baxter Healthcare Corporation
Westlake Village, CA 91362 USA
U.S. Lic. No 140
Sterile Water for Injection, USP for reconstitution of accompanying product

Do not use unless clear. No antimicrobial agent or other substance has been added. Do not use for intravascular injection without making approximately isotonic by addition of suitable solute.

Single dose container

Nonpyrogenic

CEPROTIN
protein c concentrate human kit

Product Information

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<th>HUMAN PRESCRIPTION DRUG</th>
<th>Item Code (Source)</th>
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Packaging

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Quantity of Parts

<table>
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<tr>
<th>Part #</th>
<th>Package Quantity</th>
<th>Total Product Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 1</td>
<td>1 VIAL, GLASS</td>
<td>5 mL</td>
</tr>
<tr>
<td>Part 2</td>
<td>1 VIAL, GLASS</td>
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</table>

Part 1 of 2

CEPROTIN
protein c concentrate human injection, powder, lyophilized, for solution
## Product Information

### Route of Administration

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<thead>
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<th>Item Code</th>
<th>Package Description</th>
<th>Marketing Start Date</th>
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<td>1 in 1 CARTON</td>
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<td>1</td>
<td>5 mL in 1 VIAL, GLASS; Type 9: Other Type of Part 3 Combination Product (e.g., Drug/Device/Biological Product)</td>
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</table>

## Active Ingredient/Active Moiety

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Basis of Strength</th>
<th>Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROTEIN C (UNII: 3Z6S89TXPW) (PROTEIN C - UNII:3Z6S89TXPW)</td>
<td>PROTEIN C</td>
<td>100 [iU] in 1 mL</td>
</tr>
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## Inactive Ingredients

<table>
<thead>
<tr>
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<th>Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALBUMIN HUMAN (UNII: ZIF514RVZR)</td>
<td></td>
</tr>
<tr>
<td>TRISODIUM CITRATE DIHYDRATE (UNII: B22547B95K)</td>
<td></td>
</tr>
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<td>SODIUM CHLORIDE (UNII: 451W47IQ8X)</td>
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## Marketing Information

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<td>1</td>
<td>5 mL in 1 VIAL, GLASS; Type 9: Other Type of Part 3 Combination Product (e.g., Drug/Device/Biological Product)</td>
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## Product Information

### Route of Administration

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<td>1</td>
<td>1 in 1 CARTON</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>5 mL in 1 VIAL, GLASS; Type 9: Other Type of Part 3 Combination Product (e.g., Drug/Device/Biological Product)</td>
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## Inactive Ingredients

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<tr>
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<th>Strength</th>
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## Packaging
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<th>Package Description</th>
<th>Marketing Start Date</th>
<th>Marketing End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1 in 1 CARTON</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>5 mL in 1 VIAL, GLASS; Type 9: Other Type of Part 3 Combination Product (e.g., Drug/Device/Biological Product)</td>
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</tbody>
</table>

**Marketing Information**

<table>
<thead>
<tr>
<th>Marketing Category</th>
<th>Application Number or Monograph Citation</th>
<th>Marketing Start Date</th>
<th>Marketing End Date</th>
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<tr>
<td>BLA</td>
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<td>08/09/2010</td>
<td>11/30/2018</td>
</tr>
</tbody>
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**Labeler** - Baxalta US Inc (079887619)

Revised: 3/2018

Baxalta US Inc