

**PRODUCT MONOGRAPH**  
**INCLUDING PATIENT MEDICATION INFORMATION**

**OBIZUR**

Antihemophilic Factor (Recombinant), Porcine Sequence

Lyophilized Powder for Solution, 500 Units per mL

Antihemorrhagic

Shire Pharma Canada ULC  
22 Adelaide Street West, Suite 3800  
Toronto Ontario M5H 4E3

Submission Control No: 214824

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## OBIZUR

Antihemophilic Factor (Recombinant), Porcine Sequence

### PART I: HEALTH PROFESSIONAL INFORMATION

#### SUMMARY PRODUCT INFORMATION

Route of Administration	Dosage Form / Strength	Clinically Relevant Nonmedicinal Ingredients
Intravenous Injection	Powder for Intravenous injection / 500 Units per mL reconstituted with 1 mL of water for injection	Sodium chloride, Calcium chloride dehydrate, Sucrose <i>For a complete listing see Dosage Forms, Composition and Packaging section.</i>

#### DESCRIPTION

Antihemophilic Factor (Recombinant), Porcine Sequence (OBIZUR) is a purified protein produced by recombinant DNA that is a B-domain deleted recombinant factor VIII, porcine sequence, manufactured in tissue culture in baby hamster kidney (BHK) cells. The BHK cells are cultured in media that contains fetal bovine serum. Circulating antibodies (inhibitors) targeted against human factor VIII either demonstrates a low level of cross reactivity or no cross reactivity against OBIZUR.

#### INDICATIONS AND CLINICAL USE

OBIZUR is indicated for:

Treatment of bleeding episodes in patients with Acquired Hemophilia A (AHA)

Treatment should be administered under the supervision of a qualified health professional who is experienced in the use of coagulation agents and in the management of bleeding disorders.

#### Geriatrics (> 65 years of age):

AHA is typically a geriatric disease (average age 70 years old) where patients can have multiple co-morbidities and concomitant medications. Clinical studies in this population

suggest that OBIZUR is safe and effective. OBIZUR should be dosed according to the clinical response independent of the age of the patient.

### **Pediatrics**

The safety and efficacy of OBIZUR have not been established in pediatric patients.

### **CONTRAINDICATIONS**

OBIZUR is contraindicated in patients with known anaphylactic reactions to the following: the active substance, any ingredient in the formulation, hamster protein or any component of the container.

For a complete listing, see the Dosage Forms, Composition and Packaging section of the Product Monograph.

Safety and efficacy of Obizur has not been established in patients with a baseline anti-porcine factor VIII inhibitor titre of greater than 20 BU.

### **WARNINGS AND PRECAUTIONS**

#### **General**

Allergic type hypersensitivity reactions (including anaphylaxis) may occur. The product contains trace amounts of hamster proteins. Early signs of allergic reactions, which can progress to anaphylaxis, include angioedema, chest-tightness, hypotension, lethargy, nausea, vomiting, paresthesia, restlessness, wheezing, and dyspnea. Immediately discontinue administration and initiate appropriate treatment if allergic or anaphylactic-type reactions occur.

#### **Inhibitors**

Inhibitory antibodies to OBIZUR have occurred in patients treated with OBIZUR (see ADVERSE REACTIONS). Monitor patients for the development of antibodies to OBIZUR by appropriate assays. If the plasma factor VIII level fails to increase as expected or if bleeding is not controlled after OBIZUR administration an anti-porcine factor VIII antibody can be suspected. An adjustment of the dose or other therapeutic options should be considered.

## **Special Populations**

### **Pregnant Women:**

Animal reproduction studies have not been conducted with OBIZUR. It is not known whether OBIZUR can affect reproductive capacity or cause fetal harm when given to pregnant women. Health professionals should balance the potential risks and only prescribe OBIZUR if clearly needed.

The effects of OBIZUR on fertility have not been established.

### **Nursing Women:**

It is not known whether this drug is excreted into human milk. Because many drugs are excreted into human milk, caution should be exercised if OBIZUR is administered to nursing mothers. Health professionals should balance the potential risks and only prescribe OBIZUR if clearly needed.

### **Pediatrics**

The safety and efficacy of OBIZUR have not been established in pediatric patients.

### **Geriatrics (> 65 years of age):**

AHA is typically a geriatric disease (average age 70 years old) where patients can have multiple co-morbidities and be using concomitant medications. Clinical studies in this population suggest that OBIZUR is safe and effective. OBIZUR should be dosed according to the clinical response independent of the age of the patient.

## **Monitoring and Laboratory Tests**

Perform one-stage clotting assay to confirm that adequate factor VIII levels have been achieved and maintained (See Recommended Dose and Dose Adjustment).

- Monitor factor VIII activity 30 minutes and 3 hours after initial dose.
- Monitor factor VIII activity 30 minutes after subsequent doses. Subsequent dose to be administered every 4 to 12 hours based on clinical response and measured factor VIII levels.

## ADVERSE REACTIONS

### Adverse Drug Reaction Overview

The safety profile of OBIZUR is based on the analysis of safety data from 3 clinical studies. The most frequently reported Adverse Drug Reactions (ADRs) included constipation, diarrhea, hypokalemia, anemia, oedema peripheral and a positive anti-porcine inhibitor test result.

### Clinical Trial Adverse Drug Reactions

*Because clinical trials are conducted under very specific conditions the adverse reaction rates observed in the clinical trials may not reflect the rates observed in practice and should not be compared to the rates in the clinical trials of another drug. Adverse drug reaction information from clinical trials is useful for identifying drug-related adverse events and for approximating rates.*

In the pivotal clinical trial of OBIZUR for Acquired Hemophilia A, 29 adult subjects were evaluable for safety. Of the 29 adult subjects, 10 were between the ages of 42 and 65, and 19 were 65 years of age or older. Ten (34%) subjects were female.

In the clinical trial, no serious adverse reactions (AR) occurred. Non-serious ARs occurred in 2 subjects (6.9%). These two subjects developed anti-porcine FVIII inhibitors ( $\geq 0.6$  Bethesda Units) that were considered an AR to OBIZUR by the investigator because treatment was discontinued after 24 hours of detection of the inhibitor. Please see Table 1 for a summary of adverse reactions.

**Table 1. Clinical Trial Adverse Reactions**

System Organ Class (SOC)	Events (Preferred MedDRA Term V. 17)	# of ARs	Number of Subjects (N=29)	Frequency	% per Subject
INVESTIGATIONS	Antibody test positive	2	2	Common	6.9%

Legend: ADR frequency is based upon the following scale: Very Common ( $\geq 1/10$ ); Common ( $\geq 1/100$  -  $< 1/10$ ), Uncommon ( $\geq 1/1,000$  -  $< 1/100$ ), Rare ( $\geq 1/10,000$  -  $< 1/1,000$ ), Very Rare ( $< 1/10,000$ )

## Immunogenicity

### *Inhibitory antibodies against OBIZUR*

Inhibitory antibodies against OBIZUR were measured using the Nijmegen modification of the Bethesda assay method. In the clinical trial of OBIZUR for Acquired Hemophilia A, all dosed subjects (N=29) were evaluated for anti-porcine factor VIII inhibitor development.

Of the 29 subjects treated with OBIZUR, 19 subjects were negative for anti-porcine factor VIII antibodies at baseline. Five of the 19 (26%) developed anti-porcine factor VIII antibodies following exposure to OBIZUR. Of the 10 subjects with detectable anti-porcine factor VIII antibodies at baseline, 2 (20%) experienced an increase in titer and eight (80%) experienced a decreasing to a non-detectable titer (<0.6 BU/mL).

### *Binding antibodies against baby hamster kidney (BHK) protein*

Binding antibodies against BHK protein were measured using a direct binding enzyme-linked immunosorbent assay (ELISA). Twenty-six subjects had samples analyzed for BHK protein at baseline with 21 of these subjects also having post-treatment samples analyzed. Two subjects only had post-dose samples analyzed. All samples drawn and assayed for anti-BHK protein titers were anti-BHK protein negative at all time points. Therefore, treatment-related binding antibodies to BHK protein were not detected for all subjects tested.

## **Abnormal Hematologic and Clinical Chemistry Findings**

There were no specific patterns of abnormal hematology, or blood chemistry, and no abnormalities were considered related to OBIZUR.

### Abnormal Hematologic Changes

Abnormal hematology laboratory values were observed in all subjects with clinically significantly abnormal hematology laboratory values observed in 8 subjects; these values were consistent with the subjects' underlying diseases and all resolved. Anemia was the most frequently reported abnormal hematology laboratory value that was reported in 5 subjects. No abnormal hematology results were considered serious events and all resolved by study termination.

### Abnormal Chemistry Changes

Abnormal clinical chemistry laboratory results were observed in all subjects during clinical development, but there were no specific patterns of abnormal chemistry results. Fifteen clinically significant abnormal blood chemistry laboratory results were reported as AEs in 9 subjects; these AEs resolved by study end in 8 subjects. One subject testing positive for Hepatitis C had elevated aminotransferase (ALT and AST) results that remained unresolved at study end. Hypokalemia, reported in 4 subjects, was the most frequently reported blood chemistry abnormal lab result that was reported as an AE.

### Urinalysis

Overall, there were no significant abnormal urinalysis results or any specific patterns of abnormal urinalysis results in the clinical studies. Two subjects during clinical development had abnormal urinalysis results reported as TEAEs. None of these were deemed related to OBIZUR treatment.

### **Post-Market Adverse Drug Reactions**

To date, no post-marketing adverse reactions have been reported.

## **DRUG INTERACTIONS**

### **Drug-Drug Interactions**

There are no known drug interactions reported with OBIZUR. No drug interaction studies have been performed.

## **DOSAGE AND ADMINISTRATION**

### **Dosing Considerations**

For intravenous use after reconstitution only.

- Treatment with OBIZUR under the supervision of a physician experienced in the treatment of bleeding disorders is recommended.
- Dosage, frequency, and duration of treatment with OBIZUR depend on the severity of bleeding episode, target factor VIII levels, and the patient's clinical condition.
- Parenteral drug products should be inspected for particulate matter and discoloration prior to administration. Do not administer if particulate matter or discoloration is found.
- Each vial of OBIZUR has the recombinant porcine factor VIII potency in units stated on the vial.



## **Recommended Dose and Dosage Adjustment**

The recommended dosing guidance is provided in Table 2. It is especially important to monitor the Factor VIII trough levels, administration, to guide subsequent dosing until the required clinical outcome is achieved, especially in cases of life threatening bleeding episodes.

Titrate dose and frequency based on factor VIII activity levels to maintain recommended target levels. Plasma levels of factor VIII should not exceed 200% of normal.

**Table 2. Recommended Dosing and Frequency Guidance for Treatment of Bleeding Episodes with OBIZUR**

Type of Bleeding Episode	Dosage Necessary to Maintain the Therapeutic Plasma Level	Target trough Factor VIII Blood Activity (% of Normal or Units per dL)	
		For Bleeding	For Healing
Mild superficial extremity intramuscular and joint	<ul style="list-style-type: none"> <li>• 200 units per kg initial dose</li> <li>• Subsequent dose to be administered every 4 to 12 hours based on clinical response and measured factor VIII levels</li> </ul>	50-100%	50-100%
Moderate to severe intramuscular bleeding	<ul style="list-style-type: none"> <li>• 200 units per kg initial dose</li> <li>• Subsequent doses to be administered every 4 to 12 hours based on clinical response and measured factor VIII levels</li> </ul>	100-200%	50-100%
Retroperitoneal, gastrointestinal, intracranial			

Please see Monitoring and Laboratory Tests section for more information.

FVIII potency results from a one-stage clotting assay can be affected by the type of aPTT reagent and reference standard used in the assay; variability observed in this assay is in line with that encountered with standard recombinant FVIII products.

FVIII potency determination for OBIZUR in patient samples by a chromogenic assay results in recoveries of 40-60% of nominal. This discrepancy needs to be taken into account during treatment monitoring of patients when using the chromogenic assay.

## Administration

### Preparation and Reconstitution

#### *Preparation*

Before starting reconstitution you will need the following:

- Calculated number of vials of OBIZUR
- Same number of 1 mL pre-filled syringes of sterile Water for Injection and sterile vial adapters
- Alcohol swabs
- Large sterile syringe to contain the final volume of reconstituted product

Perform reconstitution, product administration, and handling of the administration set and needles with caution. Percutaneous puncture with a needle contaminated with blood can transmit infectious viruses including HIV (AIDS) and hepatitis. Obtain immediate medical attention if injury occurs. Place needles in a sharps container after single use. Discard all equipment, including any reconstituted OBIZUR, in an appropriate container.

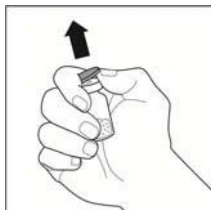
The procedures below are provided as general guidelines for the preparation and reconstitution of OBIZUR. Repeat following reconstitution instructions for each vial of OBIZUR to be administered.

#### *Reconstitution*

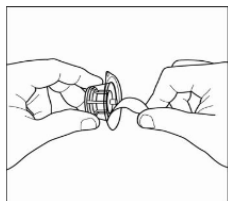
<b>Vial Size</b>	<b>Volume of Diluent to be Added to Vial</b>	<b>Approximate Available Volume</b>	<b>Nominal Concentration per mL</b>
3 mL	1 mL	1mL	500U/mL

1. Use aseptic technique during reconstitution procedure.
2. Bring OBIZUR to room temperature.
3. Remove cap from the OBIZUR vial to expose the central portion of the rubber stopper and place on a clean surface. Cleanse the rubber stopper with an alcohol swab (not supplied) and allow it to dry prior to use (Figure A).
4. Peel back the cover of the vial adapter package (Figure B). Be careful not to touch the luer lock (tip) in the center of the vial adapter. Leave the vial adapter in the package and place it on a clean surface with the luer lock pointing up.
5. Snap off the tamper resistant cap of the pre-filled syringe and place it on a clean surface (Figure C).
6. Firmly hold the package containing the vial adapter on a clean, flat surface. Connect the pre-filled syringe to the vial adapter by pushing the syringe tip down onto the luer lock in the center of the vial adapter, and screw until the syringe is secured (Figure D).
7. Carefully lift up the combined syringe and vial adapter and remove it from the plastic package (Figure E).
8. With one hand, continue to hold the combined syringe and vial adapter. With the other hand, hold the OBIZUR vial tightly on a clean, flat surface. In a continuous motion, place the vial adapter over the OBIZUR vial; firmly push the filter spike of the vial adapter through the center of the OBIZUR vial's rubber circle until the clear plastic cap snaps onto the vial (Figure F).  
Some of the liquid in the pre-filled syringe may automatically transfer into the OBIZUR vial. Push the plunger down to complete the transfer of all liquid from the syringe into the OBIZUR vial.  
With the syringe and the vial still attached, gently swirl (in a circular motion) until the product is fully dissolved /reconstituted (Figure G).
9. With one hand hold the vial and vial adapter, and with the other hand firmly grasp the barrel of the pre-filled syringe and unscrew the syringe from the vial adapter (Figure H).

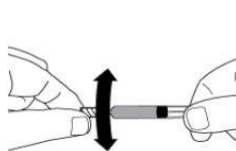
**Figure A**



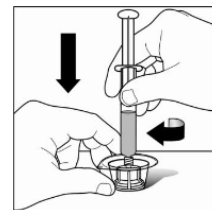
**Figure B**



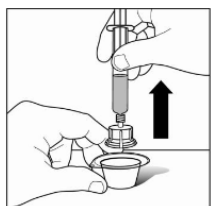
**Figure C**



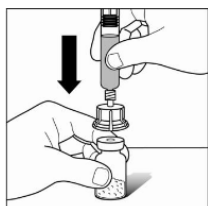
**Figure D**



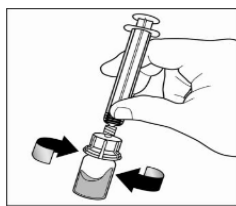
**Figure E**



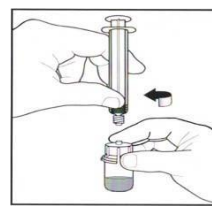
**Figure F**



**Figure G**



**Figure H**



### *Administration*

#### **For intravenous use after reconstitution only.**

Inspect parenteral drug products for particulate matter and discoloration prior to administration. The solution should be clear and colorless in appearance. Do not administer if particulate matter or discoloration is found and notify Shire.

Do not mix with other medicinal products for infusion.

Administer OBIZUR at room temperature within 3 hours of reconstitution.

Discard any unused product.

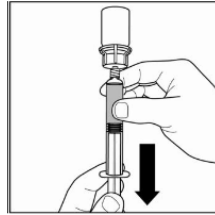
Using aseptic technique, administer using the following procedure:

Once all vials have been reconstituted, using a new large sterile syringe of the appropriate size for the volume (not supplied), pull back the plunger and admit air into the syringe.

Connect the large syringe to the vial adapter by pushing the syringe tip down onto the luer lock in the center of the vial adapter, and screw until the syringe is secured.

Withdraw the reconstituted OBIZUR into the syringe (Figure I).

**Figure I**



Unscrew the large syringe and repeat this process for all reconstituted vials of OBIZUR, until total volume to be administered is reached.

Administer the total volume as a slow bolus infusion at a rate of 1-2 mL per minute. (Alternatively, attach a large syringe to a syringe pump and set pump rate at 1-2 mL per minute). Do not administer OBIZUR as an intravenous push or bolus.

Flush line with 0.9% Sodium Chloride Injection (not supplied), USP

## **OVERDOSAGE**

There were no reports of overdose in clinical studies of OBIZUR.

## **ACTION AND CLINICAL PHARMACOLOGY**

### **Mechanism of Action**

OBIZUR temporarily replaces the inhibited endogenous factor VIII that is needed for effective hemostasis in patients diagnosed with acquired hemophilia A.

### **Pharmacodynamics**

Patients with acquired hemophilia A (AHA) have normal factor VIII genes but develop autoantibodies against their own factor VIII (i.e., inhibitors). These autoantibodies neutralize circulating human factor VIII and create a functional deficiency of this procoagulant protein. AHA results in a prolonged clotting time as measured by the activated partial thromboplastin time (aPTT) assay, a conventional in vitro test for biological activity of factor VIII. Treatment with OBIZUR should normalize the aPTT during treatment; however aPTT normalization should not be used as a measure of efficacy.

### **Pharmacokinetics**

A formal pharmacokinetic study of OBIZUR in patients diagnosed with acquired hemophilia A has not been performed.

## **STORAGE AND STABILITY**

Keep refrigerated prior to use at 2° to 8°C. Do not freeze. Store vials in the original package to protect from light.

Administer reconstituted product at room temperature within 3 hours of reconstitution.

Do not mix with other medicinal products for infusion.

Discard any unused product.

Do not use beyond the expiration date printed on the carton or vial.

## **SPECIAL HANDLING INSTRUCTIONS**

Inspect parenteral drug products for particulate matter and discoloration prior to administration. The solution should be clear and colorless in appearance. Do not administer if particulate matter or discoloration is found and notify Shire.

## **DOSAGE FORMS, COMPOSITION AND PACKAGING**

OBIZUR is formulated as a sterile, nonpyrogenic, lyophilized powder preparation. Reconstituted solution is clear and colorless, and free of particulate material.

OBIZUR is available in single-dose vial with the following product strength and pack sizes:

<b>Nominal Strength</b>	<b>Pack Size</b>
500 units	1 pack
	5 pack
	10 pack

Each kit contains one package insert and appropriate number of each of the components listed below correlating to the pack size:

- Single-dose 500 Unit vial of OBIZUR
- 1 mL sterile Water for Injection prefilled syringe
- Vial adapter with filter

List of Excipients (concentration after reconstitution)

Polysorbate 80

Sodium chloride

Calcium chloride

Sucrose

Tris

Tri-sodium citrate

Incompatibilities: None known.

## PART II: SCIENTIFIC INFORMATION

### PHARMACEUTICAL INFORMATION

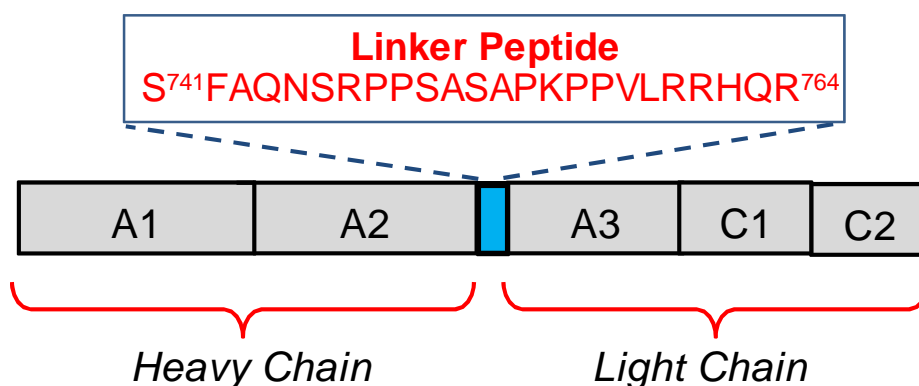
#### Drug Substance

Proper name: Antihemophilic Factor (Recombinant), Porcine Sequence

Chemical name: Antihemophilic Factor (Recombinant), Porcine Sequence

Molecular formula and molecular mass: The molecular formula of OBIZUR is:  $C_{7427}H_{11336}N_{2016}O_{2162}S_{56}$  with a corresponding molecular weight of approximately 165 kDa (based on the amino acid sequence).

Structural formula:



Physicochemical properties:

OBIZUR is a purified protein produced by recombinant DNA that is a B-domain deleted recombinant porcine factor VIII manufactured using baby hamster kidney (BHK) cells. OBIZUR is a heterodimer consisting of a heavy chain and light chain held together through non-covalent interactions consisting of approximately 1448 amino acids. Full length human and porcine factor VIII are expressed with the domain structure A1-A2-B-A3-C1-C2. In OBIZUR, the porcine factor VIII B-domain, which is not known to be necessary for procoagulant activity, has been replaced with a 24 amino acid linker containing the first 12 amino acids of the B-domain adjacent to the C terminus of the heavy chain and the last 12 amino acids of the B-domain adjacent to the N terminus of the light chain. Thus, the naturally occurring cleavage sites for the B-domain of factor



VIII have been incorporated into the OBIZUR molecular construct. The OBIZUR structure also includes the original activation sequence of the molecule within the light chain, including a 40 amino acid activation peptide.

### **Product Characteristics**

The manufacturing of OBIZUR FBDS utilizes a roller bottle cell culture process for cell expansion and recombinant protein expression followed by a series of filtration and chromatographic steps to purify the product from process related impurities. OBIZUR manufacturing utilizes Fetal Bovine Serum (FBS) in the cell expansion process and no other animal and no human derived components are used in the process. The process includes two validated orthogonal viral removal/inactivation steps for clearance of potential virus particles, namely solvent/detergent treatment and nanofiltration through a series of two 15-nm filters.

OBIZUR manufacturing process mapping, conducted during process validation, demonstrates consistent and robust OBIZUR product purification and process-related impurity removal across the process. SP Chromatography and Q Chromatography, the two dedicated purification steps, are the major OBIZUR purification steps as well as the major process-related impurity reduction steps (HCP, DNA, rh Insulin and TBP). The polishing, formulation, and viral removal steps (Mustang Q, DEAE and Nanofiltration) in the purification process maintain the OBIZUR purity and also contribute to the reduction of process-related impurities (HCP, DNA, rh Insulin and TBP). Two cell culture media FBS related impurities, BSA and bIgG, were below the LOQ following the SP chromatography step. BSA, bIgG, and TBP are consistently removed to below the limit of detection by the manufacturing process steps and are well controlled through the process.

The potency units are determined using a one-stage clotting assay against a standard calibrated against the WHO 8<sup>th</sup> International Standard Factor VIII Concentrate. The specification for OBIZUR specific activity is 11,000 to 18,000 U/mg of protein.

## CLINICAL TRIALS

### Study demographics and trial design

**Table 3. Summary of patient demographics for clinical trials in Acquired Hemophilia A patient population**

<b>Study #</b>	<b>Trial design</b>	<b>Dosage, route of administration and duration</b>	<b>Study subjects (N=number)</b>	<b>Mean age (Range)</b>	<b>Gender</b>
OBIZUR-301	Multicenter, open-label, single-cohort, prospective, Phase 2/3 study	200 U/kg; intravenous injection. Duration of treatment varied based on response	29	69.8 (42-90)	Male and Female

The efficacy and safety of OBIZUR for the treatment of serious bleeding episodes in subjects with acquired hemophilia with autoimmune inhibitory antibodies to human factor VIII has been evaluated in an international, multicenter, open-label, single-cohort, prospective, Phase 2/3 study (N=29) (Table 3). Patient(s) diagnosed with acquired hemophilia A (AHA) with auto-immune inhibitory antibodies to human factor VIII experiencing serious bleeding requiring hospitalization were considered evaluable for efficacy. One subject was considered evaluable at study entry; however, it was later determined this subject did not have AHA, leaving 28 subjects evaluable for efficacy.

An initial dose of 200 units per kg of OBIZUR was administered for the treatment of serious initial bleeding episodes. Treatment was initiated for nineteen intramuscular or joint bleeding events, two surgeries, four post-surgical bleeding events, two intracranial events, one retroperitoneal hemorrhage, and one periorbital bleed. OBIZUR was safe and well tolerated for the treatment of all serious bleeds in subjects with AHA (N=29). An assessment of efficacy was rendered by the study site investigator at 24 hours after initiation of OBIZUR treatment, using a 4-point ordinal scale to determine effectiveness, based on clinical assessment of subject stability and blood factor VIII levels. As assessment of effective or partially effective was considered as a positive response (as defined in Table 4).

**Table 4. Investigator Assessment of Response to OBIZUR**

<u>Assessment of efficacy</u>	<u>Control of bleeding</u>	<u>Clinical Assessment</u>	<u>Factor VIII levels</u>	<u>Response</u>
<u>Effective</u>	<u>Bleeding stopped</u>	<u>Clinical control</u>	<u>≥50%</u>	<u>Positive</u>
<u>Partially effective</u>	<u>Bleeding reduced</u>	<u>Clinical stabilization or improvement or alternative reason for bleeding</u>	<u>&gt; 20%</u>	<u>Positive</u>
<u>Poorly effective</u>	<u>Bleeding slightly reduced or unchanged</u>	<u>Not clinically stable</u>	<u>&lt;50%</u>	<u>Negative</u>
<u>Not effective</u>	<u>Bleeding worsening</u>	<u>Clinically deteriorating</u>	<u>&lt;20%</u>	<u>Negative</u>

The efficacy of OBIZUR to control serious bleeds in subjects with AHA was assessed in this study primarily by the response to treatment after 24 hours (as determined both clinically and by FVIII activity levels achieved), and secondarily by the frequency, total dose, number of infusions of OBIZUR and time required to achieve hemostasis.

Of the 28 AHA subjects evaluable for efficacy, 100% (28/28) of subjects with initial bleeding episodes had a positive response to treatment at 24 hours. A positive response was observed in most bleeds by 8 or 16 hours after first infusion, with 95% (19/20) of subjects evaluated showing a positive response at 8 hours and 100% (18/18) at 16 hours.

In addition to response to treatment, the overall treatment success was determined by the investigator based on his/her ability to discontinue or reduce the dose and/or dosing frequency of OBIZUR. A total of 24/28 (86%) had successful treatment of the initial bleeding episode. Of those subjects treated with OBIZUR first-line, defined as no immediate previous anti-hemorrhagic agents reported prior to first OBIZUR treatment, 16/17 (94%) had eventual treatment success reported. Eleven subjects were reported as to having received anti-hemorrhagics (e.g. tranexamic acid, rFVIIa, activated prothrombin-complex concentrate) prior to first treatment with OBIZUR. Of these 11 subjects, eight had eventual successful treatment (73%).

The median dose per infusion to successfully treat the primary bleeding episode was 133 units per kg and a median total dose of 1523 units per kg. In the initial 24 hour period, a median of 3 infusions (median dose 200 U/kg) were utilized in the clinical study. When treatment was required beyond 24 hours, a median of 10.5 infusions (median dose 100 U/kg) were given for a median of 6 days to control a bleeding episode.

## **DETAILED PHARMACOLOGY**

See ACTION AND CLINICAL PHARMACOLOGY.

## **MICROBIOLOGY**

Not applicable.

## **TOXICOLOGY**

### **Carcinogenesis, Mutagenesis, Impairment of Fertility**

Nonclinical studies evaluating the carcinogenic and mutagenic potential of OBIZUR have not been conducted.

No adverse effects were observed on histopathological examination of reproductive organs in repeat dose toxicity studies. No investigations on impairment of fertility and development have been conducted.

## REFERENCES

1. Efficacy and Safety of B-Domain Deleted Recombinant Porcine Factor VIII (OBIZUR) in the Treatment of Acquired Hemophilia A Due to Factor VIII Inhibitory Auto antibodies [unpublished intermediate clinical study report]. Baxter Healthcare Corporation. Data on file. 2013

## **READ THIS FOR SAFE AND EFFECTIVE USE OF YOUR MEDICINE**

### **PATIENT MEDICATION INFORMATION**

#### **OBIZUR**

Antihemophilic Factor (Recombinant), Porcine Sequence

Read this carefully before you start taking **OBIZUR** and each time you get a refill. This leaflet is a summary and will not tell you everything about this drug. Talk to your healthcare professional about your medical condition and treatment and ask if there is any new information about **OBIZUR**.

#### **What is OBIZUR used for?**

Treatment of bleeding episodes in patients with Acquired Hemophilia A.

#### **How does OBIZUR work?**

OBIZUR temporarily replaces the inhibited human clotting factor VIII that is needed for effective hemostasis.

#### **What are the ingredients in OBIZUR?**

##### Medicinal ingredients:

Recombinant porcine factor VIII

##### Non-medicinal ingredients:

Calcium chloride

Polysorbate 80

Sodium chloride

Sucrose

Tris

Tri-sodium citrate

#### **OBIZUR comes in the following dosage forms:**

Powder for Intravenous injection / 500 Units per mL reconstituted with 1 mL of sterile water for injection.

**To help avoid side effects and ensure proper use, talk to your healthcare professional before you take OBIZUR. Talk about any health conditions or problems you may have, including if you:**

- have prior history of bleeding disorder other than Acquired Hemophilia A
- have an established reason for bleeding that is not correctable
- have a known major sensitivity or allergy to therapeutic products of porcine or hamster origin
- have been treated with hemophilia medication within 3 hours before OBIZUR medication
- are breastfeeding. It is not known if OBIZUR passes into your milk and if it can harm your baby
- are pregnant or planning to become pregnant. It is not known if OBIZUR may harm your unborn baby

**Tell your healthcare professional about all the medicines you take, including any drugs, vitamins, minerals, natural supplements or alternative medicines.**

The following may interact with OBIZUR:

There are no known interactions of OBIZUR with other medications.

**How to take OBIZUR:**

This product should be administered by your doctor only.

**Usual dose:**

Your doctor will determine the dose of OBIZUR you will receive

The dose and frequency of infusions you receive will be based on your measured factor VIII levels and your clinical response

**Overdose:**

No symptoms of overdose have been reported.

If you think you have been administered too much OBIZUR, contact your healthcare professional, hospital emergency department or regional Poison Control Centre immediately, even if there are no symptoms.

### **Missed Dose:**

Dosing is under the discretion of the doctor and patient specific. Please consult the Product Monograph for further details.

### **What are possible side effects from using OBIZUR?**

These are not all the possible side effects you may feel when taking OBIZUR. If you experience any side effects not listed here, contact your healthcare professional. Please also see Warnings and Precautions.

Allergic reactions may occur with OBIZUR. Call your doctor or get emergency treatment right away if you get a rash or hives, itching, tightness of the throat, chest pain or tightness, difficulty breathing, light headedness, dizziness, nausea or fainting.

Some common side effects of OBIZUR include constipation, low blood iron levels, low blood potassium levels, diarrhea and a positive anti-porcine inhibitor test result.

Tell your doctor or other healthcare professional about any side effects that bother you or do not go away.

If you have a troublesome symptom or side effect that is not listed here or becomes bad enough to interfere with your daily activities, talk to your healthcare professional.



### **Reporting Side Effects**

You can help improve the safe use of health products for Canadians by reporting serious and unexpected side effects to Health Canada. Your report may help to identify new side effects and change the product's safety information.

#### **3 ways to report:**

- Online at [MedEffect](#);
- By calling 1-866-234-2345 (toll-free);
- By completing a Patient Side Effect Reporting Form and sending it by:
  - -Fax to 1-866-678-6789 (toll-free), or
    - Mail to: Canada Vigilance Program  
Health Canada, Postal Locator 1908C  
Ottawa, ON  
K1A 0K9

Postage paid labels and the Patient Side Effect Reporting Form are available at [MedEffect](#).

*NOTE: Contact your health professional if you need information about how to manage your side effects. The Canada Vigilance Program does not provide medical advice.*

### **Storage:**

This product is to be stored and administered by a health professional only.

Keep out of reach and sight of children.

### **If you want more information about OBIZUR:**

- Talk to your healthcare professional
- Find the full product monograph that is prepared for healthcare professionals and includes this Patient Medication Information by visiting the [Health Canada website](#); the manufacturer's website [www.shirecanada.com](http://www.shirecanada.com), or by calling 1-800-268-2772.

This leaflet was prepared by:

**Shire Pharma Canada ULC**  
22 Adelaide Street West, Suite 3800  
Toronto Ontario M5H 4E3

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