

## SUMMARY OF PRODUCT CHARACTERISTICS

### 1. NAME OF THE MEDICINAL PRODUCT

Human Albumin Takeda 200 mg/ml Solution for Infusion

### 2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Human Albumin Takeda 200 mg/ml is a solution containing 200 mg/ml of total protein of which at least 95% is human albumin.

A vial of 100 ml contains 20 g of human albumin.

A vial of 50 ml contains 10 g of human albumin.

The solution is hyperoncotic.

Excipients with known effect:

Sodium 100-130 mmol/l

For the full list of excipients, see section 6.1.

### 3. PHARMACEUTICAL FORM

Solution for infusion.

A clear, slightly viscous liquid; it is almost colourless, yellow, amber or green.

### 4. CLINICAL PARTICULARS

#### 4.1 Therapeutic indications

Restoration and maintenance of circulating blood volume where volume deficiency has been demonstrated, and use of a colloid is appropriate.

#### 4.2 Posology and method of administration

The concentration of the albumin preparation, dosage and the infusion rate should be adjusted to the patient's individual requirements.

#### Posology

The dose required depends on the size of the patient, the severity of trauma or illness and on continuing fluid and protein losses. Measures of adequacy of circulating volume and not plasma albumin levels should be used to determine the dose required.

If human albumin is to be administered, haemodynamic performance should be monitored regularly;

this may include:

- arterial blood pressure and pulse rate
- central venous pressure
- pulmonary artery wedge pressure

- urine output
- electrolyte concentration
- haematocrit/haemoglobin

#### Method of administration

Human Albumin Takeda 200 mg/ml can be directly administered by the intravenous route, or it can also be diluted in an isotonic solution (e.g. 5 % glucose or 0.9 % sodium chloride).

The infusion rate should be adjusted according to the individual circumstances and the indication.

In plasma exchange the infusion rate should be adjusted to the rate of removal.

#### **4.3 Contraindications**

Hypersensitivity to albumin preparations or to any of the excipients listed in section 6.1.

#### **4.4 Special warnings and precautions for use**

Suspicion of allergic or anaphylactic type reactions requires immediate discontinuation of the injection. In case of shock, standard medical treatment for shock should be implemented.

Albumin should be used with caution in conditions where hypervolaemia and its consequences or haemodilution could represent a special risk for the patient. Examples of such conditions are:

- Decompensated cardiac insufficiency
- Hypertension
- Oesophageal varices
- Pulmonary oedema
- Haemorrhagic diathesis
- Severe anaemia
- Renal and post-renal anuria

The colloid-osmotic effect of human albumin 200 mg/ml is approximately four times that of blood plasma. Therefore, when concentrated albumin is administered, care must be taken to assure adequate hydration of the patient. Patients should be monitored carefully to guard against circulatory overload and hyperhydration.

200-250 mg/ml human albumin solutions are relatively low in electrolytes compared to the 40-50 mg/ml human albumin solutions. When albumin is given, the electrolyte status of the patient should be monitored (see section 4.2) and appropriate steps taken to restore or maintain the electrolyte balance.

50 mL vial:

This medicinal product contains 115 – 149.5 mg sodium per vial, equivalent to 5.8 – 7.5 % of the WHO recommended maximum daily intake of 2 g sodium for an adult.

100 mL vial:

This medicinal product contains 230 - 299 mg sodium per vial, equivalent to 11.5 - 15 % of the WHO recommended maximum daily intake of 2 g sodium for an adult.

Albumin solutions must not be diluted with water for injections as this may cause haemolysis in recipients.

If comparatively large volumes are to be replaced, controls of coagulation and haematocrit are necessary. Care must be taken to ensure adequate substitution of other blood constituents (coagulation factors, electrolytes, platelets, and erythrocytes).

Hypervolaemia may occur if the dosage and rate of infusion are not adjusted to the patient's circulatory situation. At the first clinical signs of cardiovascular overload (headache, dyspnoea, jugular vein congestion), or increased blood pressure, raised central venous pressure and pulmonary oedema, the infusion is to be stopped immediately.

Standard measures to prevent infections resulting from the use of medicinal products prepared from human blood or plasma include selection of donors, screening of individual donations and plasma pools for specific markers of infection and the inclusion of effective manufacturing steps for the inactivation/removal of viruses. Despite this, when medicinal products prepared from human blood or plasma are administered, the possibility of transmitting infective agents cannot be totally excluded. This also applies to unknown or emerging viruses and other pathogens.

There are no reports of virus transmissions with albumin manufactured to European Pharmacopoeia specifications by established processes.

It is strongly recommended that every time that Human Albumin Takeda 200 mg/ml is administered to a patient, the name and batch number of the product are recorded in order to improve the traceability of biological medicinal products and maintain a link between the patient and the batch of the product.

#### **4.5 Interaction with other medicinal products and other forms of interaction**

No interaction studies of Human Albumin Takeda 200 mg/ml with other medicinal products have been performed.

#### **4.6 Fertility, pregnancy and lactation**

The safety of Human Albumin Takeda 200 mg/ml for use in human pregnancy has not been established in controlled clinical trials. However, clinical experience with albumin suggests that no harmful effects on the course of pregnancy, or on the foetus and the neonate are to be expected.

The effects of human albumin on fertility have not been established in controlled clinical trials.

No animal reproduction studies have been conducted with Human Albumin Takeda 200 mg/ml.

Experimental animal studies are insufficient to assess the safety with respect to reproduction, development of the embryo or foetus, the course of gestation and peri-and postnatal development.

However, human albumin is a normal constituent of human blood.

#### **4.7 Effects on ability to drive and use machines**

Human Albumin Takeda 200 mg/ml has no influence on the ability to drive and use machines.

#### **4.8 Undesirable effects**

Frequency has been evaluated using the following criteria: very common ( $\geq 1/10$ ), common ( $\geq 1/100$  to  $< 1/10$ ), uncommon ( $\geq 1/1,000$  to  $< 1/100$ ), rare ( $\geq 1/10,000$  to  $< 1/1,000$ ), and very rare ( $< 1/10,000$ ), not known (cannot be estimated from the available data).

	Very Common	Common	Uncommon	Rare	Very rare
Immune system disorders					anaphylactic shock
Gastrointestinal disorders				nausea	
Skin and subcutaneous tissue disorders				flushing, skin rash	
General disorders and administration site conditions				fever	

In cases of severe reactions, the infusion should be stopped and an appropriate treatment should be initiated.

In post-marketing surveillance the following adverse events have been reported. These events are listed by MedDRA System Organ Class, then by Preferred Term in order of severity.

Immune System Disorders: Anaphylactic reaction, Hypersensitivity/Allergic reactions

Nervous System Disorders: Headache, Dysgeusia

Cardiac Disorders: Myocardial infarction, Atrial fibrillation, Tachycardia

Vascular Disorders: Hypotension

Respiratory, Thoracic, and Mediastinal Disorders: Pulmonary edema, Dyspnea

Gastrointestinal Disorders: Vomiting

Skin and Subcutaneous Tissue Disorders: Urticaria, Pruritis

General Disorders and Administration Site Conditions: Chills

There are no data available on adverse reactions from company-sponsored clinical trials conducted with Albumin (Human).

For safety with respect to transmissible agents, see section 4.4.

#### Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Any suspected adverse events should be reported to the Ministry of Health according to the National Regulation by using an online form <https://sideeffects.health.gov.il>

## 4.9 Overdose

Hypervolaemia may occur if the dosage and infusion rate are too high. At the first clinical signs of cardiovascular overload (headache, dyspnoea, jugular vein congestion), or increased blood pressure, raised central venous pressure, and pulmonary oedema, the infusion should be stopped immediately and the patient's haemodynamic parameters carefully monitored.

## 5. PHARMACOLOGICAL PROPERTIES

### 5.1 Pharmacodynamic properties

Pharmacotherapeutic group: plasma substitutes and plasma protein fractions, ATC code: B05AA01.

Human albumin accounts quantitatively for more than half of the total protein in the plasma and represents about 10 % of the protein synthesis activity of the liver.

Physico-chemical data: Human Albumin Takeda 200 mg/ml has a corresponding hyperoncotic effect.

The most important physiological functions of albumin result from its contribution to the oncotic pressure of the blood and its transport function. Albumin stabilizes circulating blood volume and is a carrier of hormones, enzymes, medicinal products and toxins.

## **5.2 Pharmacokinetic properties**

Under normal conditions the total exchangeable albumin pool is 4 - 5 g/kg bodyweight, of which 40 to 45 % is present intravascularly and 55 to 60 % in the extravascular space. Increased capillary permeability will alter albumin kinetics and abnormal distribution may occur in conditions such as severe burns or septic shock.

Under normal conditions, the average half life of albumin is about 19 days. The balance between synthesis and breakdown is normally achieved by feedback regulation. Elimination is predominantly intracellular and due to lysosome proteases.

In healthy subjects, less than 10 % of infused albumin leaves the intravascular compartment during the first two hours following infusion. There is considerable individual variation in the effect on plasma volume. In some patients the plasma volume can remain increased for some hours. However, in critically ill patients, albumin can leak out of the vascular space in substantial amounts at an unpredictable rate.

## **5.3 Preclinical safety data**

Human albumin is a normal constituent of human plasma and acts like physiological albumin.

In animals, single dose toxicity testing is of little relevance and does not permit the evaluation of toxic or lethal doses or of a dose-effect relationship.

Repeated dose toxicity testing is impracticable due to the development of antibodies to heterologous protein in animal models.

To date, human albumin has not been reported to be associated with embryo-foetal toxicity, oncogenic or mutagenic potential.

No signs of acute toxicity have been described in animal models.

# **6. PHARMACEUTICAL PARTICULARS**

## **6.1 List of excipients**

Caprylic acid  
N-Acetyltryptophan  
Water for Injection

Total sodium content: 100 – 130 mmol/l

## **6.2 Incompatibilities**

This medicinal product must not be mixed with other medicinal products (except the recommended diluents mentioned in section 6.6), whole blood and packed red cells. Further human albumin should not be mixed with protein hydrolysates (e.g. parenteral nutrition) or solutions containing alcohol since these combinations may cause the proteins to precipitate.

### **6.3 Shelf life**

The expiry date of the product is indicated on the packaging materials

After opening the product should be used immediately.

### **6.4 Special precautions for storage**

Do not store above 25°C.

Do not freeze.

Store in the original package in order to protect from light.

### **6.5 Nature and contents of container**

50 ml of solution in a vial (type II glass) with a bromobutyl rubber stopper – pack size of 1 or 70.

100 ml of solution in a vial (type II glass) with a bromobutyl rubber stopper – pack size of 1 or 56.

Not all pack sizes may be marketed.

### **6.6 Special precautions for disposal and other handling**

The solution can be directly administered by the intravenous route or it can also be diluted in an isotonic solution (e.g. 5 % glucose or 0.9% sodium chloride).

Albumin solutions must not be diluted with water for injections as this may cause haemolysis in recipients.

If large volumes are administered, the product should be warmed to room or body temperature before use.

Do not use solutions which are cloudy or have deposits. This may indicate that the protein is unstable or that the solution has become contaminated.

Do not use unless seal is intact. If leaks are found, discard.

Once the container has been opened, the contents should be used immediately. Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

## **7. MARKETING AUTHORISATION HOLDER**

Takeda Israel Ltd.  
25 Eyal st.,  
P.O.B 4140  
Petach Tikva 4951125

## **8. MANUFACTURER**

Takeda Manufacturing Austria AG Industriestrasse 67, 1221 Vienna, Austria

**9. REGISTRATION NUMBER**

167-81-36538-00

Revised in May 2023 according to MoHs guidelines.