

Product Information

Albunate[®] 25

Human albumin 25% (250 g/L)

Australia

NAME OF THE MEDICINE

Human albumin, solution for intravenous infusion.

DESCRIPTION

Albunate[®] 25 is manufactured from human plasma. Albunate[®] 25 is a solution containing 250 g/L of total protein of which at least 96% is human albumin. Albunate[®] 25 is hyperoncotic to normal plasma. Albunate[®] 25 is a clear, slightly viscous liquid; it is almost colourless, yellow, amber or green. It has a nominal osmolality of 258 mOsm/kg, is isotonic and the pH is 6.7–7.3. One litre of Albunate[®] 25 also contains 20 mmol of sodium acetyltryptophanate and 20 mmol of sodium octanoate. Sodium chloride is added to give a sodium content of 140 mmol/L. The Albunate[®] 25 manufacturing process includes pasteurisation (60°C for 10 hours) and multiple steps involving ethanol fractionation and depth filtration in the presence of filter aids which contribute to the reduction of pathogens should they be present.

PHARMACOLOGY

Pharmacodynamics

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 250 g/L has a hyperoncotic effect.

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

Pharmacokinetics

Distribution

Under normal conditions, the total exchangeable albumin pool is 4–5 g/kg body weight, of which 40–45% is present intravascularly and 55–60% is 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.

Elimination

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 2 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.

CLINICAL TRIALS

There have been no company sponsored clinical trials conducted using Alunate[®].

INDICATIONS

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

The choice of albumin rather than artificial colloid will depend on the clinical situation of the individual patient.

CONTRAINDICATIONS

Hypersensitivity to albumin preparations or to any of the excipients.

PRECAUTIONS

Suspicion of allergic or anaphylactic type reactions requires immediate discontinuation of the infusion. 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 250 g/L 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 g/L human albumin solutions are relatively low in electrolytes compared to the 40–50 g/L human albumin solutions. When albumin is given, the electrolyte status of the patient should be monitored (see **DOSAGE AND ADMINISTRATION**) and appropriate steps taken to restore or maintain the electrolyte balance.

Albunate[®] 25 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 infusion rate 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 venous pressure and pulmonary oedema, the infusion is to be stopped immediately.

Albunate[®] 25 contains approximately 3.2 mg sodium per mL of solution (140 mmol/L). This should be noted when the product is used in patients requiring sodium restriction.

Pathogen safety

This product is made from human plasma. Products made from human plasma may contain infectious agents such as viruses and theoretically Creutzfeldt-Jakob Disease (CJD) agents, 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 infectious agents and by testing for the presence of certain viral markers.

In addition, virus inactivation/removal procedures are included in the manufacturing process. The current process and procedures applied in the manufacture of this product are effective against enveloped viruses such as human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV), and the non-enveloped virus, hepatitis A virus (HAV) and human parvovirus B19.

Despite these measures, such products may still potentially transmit disease. There is also the possibility that other known or unknown infectious agents may be present in such products.

Vaccination for patients in receipt of medicinal products from human plasma should be considered where appropriate.

It is strongly recommended that every time that Albunate[®] 25 is administered to a patient, the name and batch number of the product are recorded in order to maintain a link between the patient and the batch of the product.

Effects on fertility

No studies examining the effect of Albunate[®] 25 on fertility have been conducted.

Use in pregnancy

Reproductive toxicity studies with Albunate[®] 25 in animals have not been conducted.

The use of Albunate[®] 25 in human pregnancy has not been established in controlled clinical trials; therefore, use in pregnant women only if benefits outweigh risk.

Use in lactation

Like endogenous serum albumin, Albunate[®] 25 may be excreted in milk. No safety information is available.

Paediatric use

There have been no specific clinical studies of Albunate[®] 25 in children.

Use in the elderly

There have been no specific clinical studies of Albunate[®] 25 in the elderly.

Genotoxicity

No genotoxicity studies have been conducted with Albunate[®] 25.

Carcinogenicity

No carcinogenicity studies have been conducted with Albunate[®] 25.

Effect on laboratory tests

Human albumin is an endogenous plasma protein so no specific effects on laboratory tests are anticipated.

INTERACTIONS WITH OTHER MEDICINES

No specific interactions of human albumin with other medicinal products are known.

ADVERSE EFFECTS

Summary of the safety profile

Mild reactions with human albumin solutions such as flush, urticaria, fever and nausea occur rarely. These reactions normally disappear rapidly when the infusion rate is slowed down or the infusion is stopped. Very rarely, severe allergic reactions such as anaphylactic shock may occur. In these cases, the infusion should be stopped immediately and an appropriate treatment should be initiated.

Tabulated list of adverse reactions

Table 1 presents the adverse reactions which have been observed with Alunate[®] during the post-marketing phase, according to the MedDRA system organ classification (SOC and Preferred Term Level). As the post-marketing reporting of adverse reactions is voluntary and from a population of uncertain size, it is not possible to reliably estimate the frequency of these reactions. Hence the frequency category ‘not known (cannot be estimated from the available data)’ is used.

Table 1: List of adverse reactions

MedDRA System Organ Class (SOC)	Adverse Reaction	Frequency
Immune system disorders	Hypersensitivity reactions (including anaphylaxis and shock)	Not known
Gastrointestinal disorders	Nausea	Not known
Skin and subcutaneous tissue disorders	Flush, urticaria	Not known
General disorders and administration site conditions	Fever	Not known

For safety information with respect to transmissible agents, see **Pathogen safety**.

DOSAGE AND ADMINISTRATION

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

Dosage

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. Infusion rate and volume need to be adapted according to clinical conditions, most notably in the elderly or in the paediatric population.

Paediatric population

The dosage in children and adolescents (0–18 years) should be adjusted to the patient's individual requirements.

Monitoring advice

If Alunate[®] 25 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
- haematocrit/haemoglobin.

Administration

NOTE: Alunate[®] 25 contains no antimicrobial preservative. It must, therefore, be used immediately after opening the bottle. Use in one patient on one occasion only. Any unused solution should be discarded appropriately.

Albunate[®] 25 is a clear, slightly viscous liquid; it is almost colourless, yellow, amber or green. 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. The bottle should be returned unopened to CSL Behring.

Albunate[®] 25 can be directly administered by the intravenous route, or it can also be diluted in a suitable crystalloid solution.

Albunate[®] 25 can be diluted to a mildly hyponcotic solution to normal plasma (4–5% albumin) prior to administration, in the proportion of 1 mL of Albunate[®] 25 to 4 mL of suitable crystalloid solution and administered by the usual intravenous technique.

Albunate[®] 25 is packaged in a glass bottle that must be vented during use.

Albunate[®] 25 must not be diluted with water for injections as this may cause haemolysis in recipients.

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.

If large volumes are administered, the product should be warmed to room or body temperature before use. Do not use if the solution has been frozen.

Compatibility with other fluids

Albunate[®] must not be mixed with any other medicinal products, including whole blood, packed red cells, or other albumins.

OVERDOSAGE

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.

PRESENTATION AND STORAGE CONDITIONS

Albunate[®] 25 is issued in glass bottles in two sizes:

Attachment 1: Product information AusPAR ALBUNATE albumin CSL Limited PM-2014-01051-1-5- Final – 2 May 2017. This Product Information was approved at the time this AusPAR was published.

One bottle of 50 mL contains 12.5 g of human albumin.

One bottle of 100 mL contains 25 g of human albumin.

Store below 25°C (Do not freeze). Protect from light. Do not use after the expiry date.

NAME AND ADDRESS OF THE SPONSOR

CSL Behring (Australia) Pty Ltd

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Australia

POISON SCHEDULE OF THE MEDICINE

Unscheduled

DATE OF FIRST INCLUSION IN THE AUSTRALIAN REGISTER OF THERAPEUTIC GOODS (THE ARTG)

30 July 2015

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