

100 mm

FOR THE USE OF A REGISTERED MEDICAL PRACTITIONER OR A HOSPITAL ONLY
FOR INTRAVENOUS ADMINISTRATION ONLY

Human Albumin IP 5% Solution
(5g/100ml)

Albucel® 5%

एलबुसेल ५%

DESCRIPTION

Albucel® 5% is albumin (Human), prepared from the pools of adult human venous plasma obtained from healthy donors. Albucel® 5% is a sterile, liquid preparation of albumin in aqueous solution. Albumin (Human) 5% is osmotically equivalent to an equal volume of normal human plasma.

PRODUCT SAFETY

Collected blood plasma which used in manufacturing of Albucel® 5%, screened for the mandatory infectious diseases. Only on being declared negative to HBsAg, HIV I & II antibodies, HCV RNA and antibodies against HCV the plasma is used for processing.

The manufacturing procedure incorporates Heat Pasteurization (60°C for 10 hours), which inactivates viruses. After manufacturing, the product is tested as per specification and indicates the product is non-reactive from viruses like HIV, HBsAg, HCV. Multiple steps have been applied to product safety assurance; there is a very remote probability that unknown infectious agents may be present in these products like never emerging viruses and theoretical CJD (Creutzfeldt Jakob Disease). The process parameters, characterizations and final product quality are designed such, that they meet the regulatory requirements. Records of blood donors whose plasma have been used for manufacturing of this product have been maintained for at least ten years at the site of origin. Albucel® 5% contains no preservative and is free from plasma protein associated with the blood clotting mechanism and blood group antibodies.

Abbreviation: HIV: Human Immunodeficiency Virus; HCV: Hepatitis C Virus; HBsAg: Hepatitis B surface antigen.

COMPOSITION

Each vial contains:	
Total Protein	50 g/l
Sodium Caprylate (as stabilizer)	0.664 g/l
Acetyl Tryptophan (as stabilizer)	0.985 g/l
Na+ Contents	Not more than 160 mM/l
K+ Contents	Not more than 2 mM/l
Aluminum Contents	Not more than 200 µg/l

CLINICAL PHARMACOLOGY

Albumin is a highly soluble, globular protein (MW 66 kDa), accounting for 70% - 80% of the colloid osmotic pressure of plasma. Therefore, it is important in regulating the osmotic pressure of plasma. When administered intravenously to an adequately hydrated subject, the oncotic (colloid osmotic) effect of Albucel® 5% is to expand the circulating blood volume by an amount approximately equal to the volume infused. The degree and duration of volume expansion depend upon the initial blood volume. When treating patients with diminished blood volume, the effect of infused albumin may persist for many hours. Albumin is also a transport protein and binds naturally occurring, therapeutic, and toxic materials in the circulation. It may be useful in severe hemolytic disease in the neonate who is awaiting exchange transfusion. The infused albumin may reduce the level of free bilirubin in the blood. This could also be of importance in acute liver failure where albumin might serve the dual role of supporting plasma oncotic pressure, as well as binding excessive plasma bilirubin. Albumin is distributed throughout the extracellular water and more than 60% of the body albumin pool is located in the extravascular fluid compartment.

The total body albumin in a 70 kg adult is approximately 320 g. Albumin has a circulating life span of 15 - 20 days, with a turnover of approximately 15 g per day. It is convenient to use since no cross-matching is required and the absence of cellular elements removes the danger of sensitization with repeated infusions.

INDICATIONS AND USAGE

1. Hypovolemia

Hypovolemia is a possible indication for use of Albucel® 5%. Its effectiveness in reversing hypovolemia depends largely upon its ability to draw interstitial fluid into the circulation. It is most effective with patients who are well hydrated. When the hypovolemia is long-standing and hypoalbuminemia exists accompanied by adequate hydration or edema, 25% albumin is preferable to 5% protein solutions. However, in the absence of adequate or excessive hydration, 5% protein solutions should be used or 25% albumin should be diluted with crystalloid solutions. Although crystalloid solutions and colloid-containing plasma substitutes can be used in emergency treatment of shock, Albumin (Human) has a prolonged intravascular half-life. When blood volume deficit is the result of hemorrhage, compatible red blood cells or whole blood should be administered as quickly as possible.

2. Hypoalbuminemia

A. General Hypoalbuminemia is another possible indication for use of Albucel® 5%. Hypoalbuminemia can result from one or more of the following:

- (1) Inadequate production (malnutrition, burns, major injury, infections, etc.)
- (2) Excessive catabolism (burns, major injury, pancreatitis, etc.)
- (3) Loss from the body (hemorrhage, excessive burn exudates, etc.)
- (4) Redistribution within the body (major surgery, various inflammatory conditions, etc.)

When albumin deficit is the result of excessive protein loss, the effect of administration of albumin will be temporary unless the underlying disorder is reversed. In most cases, increased nutritional replacement of amino acids and/or protein with concurrent treatment of the underlying disorder will restore normal plasma albumin levels more effectively than albumin solutions. Occasionally hypoalbuminemia accompanying severe injuries, infections or severe pancreatitis cannot be quickly reversed and nutritional supplements may fail to restore serum albumin levels. In these cases, Albucel® 5% might be a useful therapeutic adjunct.

B. Burns An optimum regimen for the use of albumin, electrolytes and fluid in the early treatment of burns has not been established, however, in conjunction with appropriate crystalloid therapy, Albucel® 5% may be indicated for treatment of oncotic deficits after the initial 24-hour period following extensive burns and to replace the protein loss which accompanies any severe burn.

3. Cardiopulmonary Bypass Surgery

Albucel® 5% has been recommended prior to or during cardiopulmonary bypass surgery, although no clear data exist indicating its advantage over crystalloid solutions

DOSAGE AND ADMINISTRATION

Albucel® 5% should always be administered intravenously. The total dosage will vary with the individual. Albucel® 5% may be administered either undiluted or diluted in 0.9% Sodium Chloride solution (normal saline) or 5% Dextrose in Water. Whenever dilution of albumin human is necessary, the oncotic and osmotic properties as well as the tonicity of the resultant dilution must be considered. If sodium restriction is required, Albucel® 5% should only be administered either undiluted or diluted in a sodium-free carbohydrate solution such as 5% Dextrose in Water. Because of risk of potentially life-threatening hemolysis and acute renal failure, albumin human must not be diluted with sterile water.

The concentration of the albumin preparation, dosage and the infusion-rate should be adjusted to the patient's individual requirements. The dose required depends on the size of the patient, the severity of trauma or illness and on continuing fluid and protein losses. If Albucel® 5% is to be administered, hemodynamic performance should be monitored regularly; this may include:

- arterial blood pressure and pulse rate
- central venous pressure
- pulmonary artery wedge pressure
- urine output
- electrolyte
- hematocrit/hemoglobin

Measures of adequacy of circulating volume and not plasma albumin levels should be used to determine the dose required. If large volumes are administered, the product should be warmed to room temperature before use.

1. Hypovolemia

The dosage of Albucel 5% must be individualized. As a guideline, the initial treatment should be in the range of 250 to 500 mL for older children and adults and 12 to 20 mL per kilogram of body weight for infants and young children. This may be repeated after 30-minute intervals if the response is not adequate. Upon administration of additional albumin or if hemorrhage has occurred, hemodilution and a relative anemia will follow. This condition should be controlled by the supplemental administration of compatible red blood cells or compatible whole blood.

2. Burns

The optimal therapeutic regimen for administration of crystalloid and colloid solutions after extensive burns has not been established. When Albucel 5% is administered after the first 24 hours following burns, an initial dose of 500 mL is recommended.

3. Hypoalbuminemia

Hypoalbuminemia is usually accompanied by a hidden extravascular albumin deficiency of equal magnitude. This total body albumin deficit must be considered when determining the amount of albumin necessary to reverse the hypoalbuminemia. When using the patient's serum albumin concentration to estimate the deficit, the body albumin

compartment should be calculated to be 80 to 100 mL per kilogram of body weight. Daily dose should not exceed 2 g of albumin per kilogram of body weight.

USE IN SPECIAL POPULATIONS

Pregnancy

Pregnancy Category C. Animal reproduction studies have not been conducted with Albucel® 5%. It is also not known whether Albucel® 5% can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. Albucel® 5% should be given to a pregnant woman only if clearly needed.

Pediatric Use

No clinical studies establishing safety and effectiveness of albumin have been conducted in pediatric patients. However, extensive experience in patients suggests that children respond to albumin in the same manner as adults. There are no known adverse reports of human albumin usage in children, if dose is appropriate for body weight of child.

CONTRAINDICATIONS

Human albumin is contraindicated in certain patients e.g. those with a history of congestive cardiac failure, renal insufficiency or stabilize chronic anemia are at special risk of developing circulatory overload. Human albumin is contraindicated in patient with hypersensitivity to albumin preparations or to any of the excipients present in the solution.

WARNINGS

Albucel® 5% is made from human plasma. Products made from human plasma may contain infectious agents, such as viruses, and, theoretically, the Creutzfeldt - Jakob Disease (CJD) agent that can cause disease. The theoretical risk for transmission of CJD is considered extremely remote. No cases of transmission of viral diseases or CJD have ever been identified for albumin. 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 certain viruses. The manufacturing procedure for Albucel® 5% includes processing steps designed to reduce further the risk of viral transmission. Albucel® 5% is pasteurized in the final container at 60.0 °C for 10 hours. Virus eliminated /inactivation is also achieved by cold alcohol fractionation process and pasteurization at 60.0 °C for 10 hours of albumin drug substance. Despite these measures, such products can still potentially transmit disease. There is also the possibility that unknown infectious agents may be present in such products. Individuals who receive infusions of blood or plasma products may develop signs and/or symptoms of some viral infections, particularly hepatitis C. All infections thought by a physician possibly to have been transmitted by this product should be reported by the physician or other healthcare provider. The physician should discuss the risks and benefits of this product with the patient, before prescribing or administering it to the patient.

Bottles which are cracked or which have been previously entered or damaged should not be used, as this may have allowed the entry of microorganisms. Albucel® 5% contains no preservative.

PRECAUTIONS

Certain solutions containing protein hydrolysates or alcohol must not be infused through the same administration set in conjunction with albumin since these combinations may cause the proteins to precipitate.

Albumin should be administered with caution to patients with low cardiac reserve.

Albumin should be used with caution in patients who are at increased risk of developing circulatory overload and its consequences or hemodilution could represent a special risk for the patient. Examples of such conditions are:

- Hypertension
- Esophageal varices
- Pulmonary edema Hemorrhagic diathesis
- Renal and post-renal anuria

Rapid infusion may cause vascular overload with resultant pulmonary edema. Patients should be closely monitored for signs of increased venous pressure. At the first clinical signs of cardiovascular overload (headache, dyspnea, jugular vein congestion) or increased blood pressure, raised venous pressure and pulmonary edema, the infusion is to be stopped immediately.

A rapid rise in blood pressure following infusion necessitates careful observation of injured or postoperative patients to detect and treat severed blood vessels that may have bled at a lower pressure.

Patients with marked dehydration require administration of additional fluids. Albumin may be administered with the usual dextrose and saline intravenous solutions.

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

DRUG INTERACTIONS

Albucel® 5% is compatible with whole blood, packed red cells, as well as the standard carbohydrate and electrolyte solutions intended for intravenous use. It should, however, not be mixed with protein hydrolysates, amino acid solutions nor those containing alcohol. Components used in the packaging of Albucel® 5% are latex-free.

ADVERSE REACTIONS

Adverse reactions with albumin are rare. These reactions normally disappear rapidly when the infusion rate is slowed down or the infusion is stopped. In case of severe reactions, the infusion should be stopped and an appropriate treatment should be initiated. If administration has been stopped and the patient requires additional Albucel® 5%, material from a different lot should be used.

Adverse reactions include:

- Allergic or pyrogenic reaction: anaphylaxis, which may be severe, and hypersensitivity reactions including pyrexia, chills, urticaria, skin rash, pruritus, edema, erythema, hypotension and bronchospasm.
- Psychiatric: confusional state
- Nervous system: headache
- Cardiac: tachycardia, cardiac failure
- Vascular: hypotension, hypertension, flushing
- Respiratory: dyspnoea
- Gastrointestinal: nausea, vomiting
- Skin and subcutaneous tissue: erythematous hyperhidrosis

HOW SUPPLIED

Albucel® 5% is available as 5% intravenous infusion single dose hermetic container, containing 5 g human albumin per 100ml.

STORAGE

Store below 25° C
Contents must not be used more than 4 hours after the container has been opened and any remnant portions must be discarded. Do not freeze.
Do not use if the solution is cloudy or turbid or if deposits have formed or if any particulate matters observed.
Keep the container in the outer carton in order to protect from light.

EXPIRY

Three years from the date of manufacture. Do not use after expiry date.

Manufactured and Marketed by:



INTAS PHARMACEUTICALS LTD.

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AW-056-00

Front Side

Back Side

Reason for revision : New Artwork							Artwork No.: AW-056-00
Supersedes No.: NA							
	Prepared by		Reviewed and Approved by				Authorised by
Department	QA	Production	Regulatory	Marketing	Medical	QA	QA
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Date							
Name							
Designation							

Product Name: Albucel Insert
Size: 100 x 260 mm
GSM: 50 gsm+/- 10 %
Type of paper: Maplitho

Fold Size: ~100 x ~32.5 mm
No. of fold: 4
Colour shade: Black
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