ALBERTA PRECISION LABORATORIES
Leaders in Laboratory Medicine

# Albumin (Human) 5%

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| **APPLICABILITY:** This document applies to APL, AHS, Covenant Health, and all other health care professionals involved in the transfusion of blood components and products in Alberta. | ***Other Names:*** *Plasbumin®-5, Alburex®-5*<br>***Company:*** *Grifols Canada Ltd, CSL Behring*<br>***Class:*** *Manufactured product, derived from human plasma* |

In the event of discrepancy between APL Monograph and Manufacturer's documentation or patient resources, the APL Monograph will take precedence

| | INTRAVENOUS | | | OTHER | | |
|---|---|---|---|---|---|---|
| **ROUTES** | **DIRECT IV** | **IV Infusion** | **Continuous Infusion** | **SC** | **IM** | **OTHER** |
| **Acceptable Routes*** | Yes*** | Yes | Yes | Yes** | No | N/A |

* Administration of blood components and blood products is a restricted activity. For specific conditions that apply to a profession's authorization to administer blood components and blood products, consult the applicable discipline-specific regulation under the Health Professions Act (Alberta). Health care professionals with this authorization require the applicable education, training and competency.
**Although not indicated by the manufacturer monograph, the authorized prescriber may indicate subcutaneous (SC) administration due to the patient's venous access or condition
*** Direct IV administration of blood products may be performed by health care professionals that have authorization of administration of blood products within their scope of practice.

**DESCRIPTION:**

- Sterile aqueous solution of albumin prepared from pooled human plasma, with a physiological pH and a sodium concentration of 130-150 mmol/L.
- Clear, slightly viscous liquid which can range from almost colorless to yellow, amber, or green.
- 5% albumin is iso-oncotic (Plasbumin®) to mildly hypo-oncotic (Alburex®) with normal plasma.
- Also available in concentration of 25%. (See separate blood product monograph).
- Sizes: 50 mL (2.5 g Albumin), 250 mL (12.5 g Albumin); 500 mL.
- Contains sodium caprylate and acetyltryptophan as stabilizers.
- Low aluminum content (≤ 200µg/L).
- Preservative free.
- Latex free.

**AVAILABILITY:**

- Supplied by Canadian Blood Services.
- Contact your local laboratory/transfusion service regarding stock availability on site.

**INDICATIONS:**

- Used to restore and maintain circulating blood volume when the use of a colloid is clinically appropriate.
- Primarily used in the treatment of shock associated with hemorrhage, surgery, trauma, burns and bacteremia.
- 5% albumin can be used in conditions with a volume deficit alone (25% albumin is the product of choice if an oncotic deficit exists).
- Refer to Adult Critical Care Albumin for Resuscitation Decision Support Tool https://www.albertahealthservices.ca/assets/about/scn/ahs-scn-cc-albumin-decision-tool.pdf
- On a case-by-case basis, arrangements may be made for reconstitution of certain medications with albumin. These **must** be approved by a Transfusion Medicine Physician.

**CONTRAINDICATIONS:**

- Known hypersensitivity to albumin or to any of the constituents of its formulation (see package insert)
- In patients at risk of developing circulatory overload.
- Generally, not indicated for:
  - Malnutrition, chronic nephrosis, or chronic cirrhosis.
  - Promotion of wound healing.
  - Solely to raise serum albumin level.
  - Initial resuscitation of hemorrhage.

**WARNINGS:**

- **Do not** dilute with sterile water, as this can cause potentially fatal hemolysis and acute renal failure**.**

**DOSE** (Refer to Product Insert):

- Dose to be determined by the most responsible health practitioner (MHRP).
- 5% Albumin will expand the circulating blood volume by an amount approximately equal to the volume infused in an adequately hydrated patient.

**ADMINISTRATION:**

If subcutaneous infusion is required, detailed administration instructions including dose, rate, supplies, and monitoring must be provided by the MRHP.

***Confirm written (signed) consent has been obtained and documented prior to requesting blood component from lab/transfusion service where possible.***

**Pre-Infusion:**

- Ensure recent patient weight is on file and pertinent labs are available. Perform the appropriate pre-transfusion checks per nursing protocol.
- Visually inspect the vial and product. Do not use if solution is discolored, frozen; or if vial is cracked/damaged, or contains glass and/or cork material in the solution.

**Access:** Product can be given via peripheral or central venous access site. Off-label subcutaneous infusion may be performed if requested by the MRHP.

**Administration Supplies:**

- Administer via a vented set.
- **Note:** If the patient requires a filter, a 0.2-micron filter or larger must be used.

**Compatible Solutions:**

- Standard isotonic carbohydrate and electrolyte solutions (ex. D5W, RL, 2/3-1/3).
- 0.9% normal saline
- Do **not** mix with protein hydrolysates, amino acid solutions, or solutions containing alcohol.
- Do **not** mix with packed red blood cells or reconstituted whole blood.
- Do **not** pre-dilute any albumin solutions with sterile water for injection. This results in a substantial reduction in tonicity, which increases the risks for potentially fatal hemolysis and acute renal failure.

**Administration**

- Spike perpendicular to the plane of the stopper (i.e. at 90° angle) within the stopper area delineated by the raised ring to decrease the potential of pushing the stopper into the albumin vial.
- A single vial may be entered multiple times for the same patient.
- Do not share vials between patients.
- Once vial is entered, contents must be infused within 4 hrs.
- Flush set with compatible solution after completion to ensure entire dose is administered.
- **Intermittent Infusion:**
  - Change infusion set at minimum, every 8 hours
- **Continuous Infusion:**
  - Change infusion set every 24 hours
- **Administration rate:**
  - Administration rate should be specified by the MRHP after patient assessment.
  - MRHP should document the rationale for administration rates exceeding the maximum recommended rate.
  - Maximum recommended rate: 5 mL/min.

**NURSING IMPLICATIONS:**

**Patient Monitoring**:

| | Pre-transfusion | Remainder of transfusion | Post-transfusion |
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| All Patients | Yes | q1h, and On completion of dose | 20-30 min post, then PRN |

**Note: Vital signs/patient monitoring may be conducted more frequently as determined by clinical condition of patient.*

- Monitor closely for circulatory overload.
- Blood coagulation parameters, hematocrit, and serum electrolytes should be monitored when a large volume of 5% albumin is administered.

**Patients receiving blood product transfusions must be observed closely for signs of any unexpected or untoward reactions. These reactions may occur during or after the infusion of blood or blood products. For follow up instructions to a transfusion reaction, go to:** Transfusion Reactions | Alberta Health Services

**Documentation:**

- Ensure documentation is completed as per *AHS Transfusion of Blood Components and Blood Products Policy.*
- Start and stop time of infusion and assessment of patient tolerability should also be documented in appropriate flow chart or clinical record (electronic or paper).
- Document vital signs as required in the appropriate flow chart or clinical record (electronic or paper).
- Provide patient notification of transfusion documentation where required.

**POTENTIAL HAZARDS WITH PARENTERAL ADMINISTRATION:**

- Potential adverse events related to a blood product transfusion range in severity from minor with no sequelae to life-threatening.
- All adverse events occurring during a transfusion should be evaluated to determine whether or not the transfusion can be safely continued/restarted.
- All adverse events suspected to be related to a product transfusion (whether during or after a transfusion) must be reported to your local transfusion service.
- The most commonly reported adverse reactions in patients receiving albumin are allergic in nature or due to high plasma protein levels from excessive or rapid albumin administration.

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| **Side Effects**<br>- Flushing<br>- Headache<br>- Nausea<br>- Itching and redness at the venipuncture site | → | **Action:**<br>Slow rate of infusion |
| **Potential Allergic Reaction**<br>- Stuffy nose<br>- Hives/severe itching<br>- Cough<br>- Chest pain<br>- Wheezing<br>- Facial swelling<br>- Fainting | → | **Action:**<br>**STOP** infusion **IMMEDIATELY** and contact physician |

**STORAGE & STABILITY:**

- Plasbumin® is stored at room temperature (up to 30°C).
- Alburex® is stored at 2-30ºC. Keep away from light.
- Do not freeze.
- Shelf life is 2-5 years depending on manufacturing process. Expiration date is printed on box and vial.
- Do not use expired product.

**CONTACT INFORMATION:**

Approved By: APL Transfusion Medicine Discipline Council
*For questions or comments please contact: Transfusion.SafetyTeam@aplabs.ca*

**REFERENCES:**

Clarke, g. Yan, M. Clinical guide to transfusion. Chapter 3: Albumin. Canadian Blood Services. June 2018. [accessed 11Apr22] https://professionaleducation.blood.ca/en/transfusion/clinical-guide/albumin

Grifols Canada Ltd. 25 Jan 2018. Albumin (human) 5% Solution, USP Product Monograph. Submission Control No. 202697 & Level 3 change. [accessed 11Apr22]. https://www.staticweb.grifols.com/documents/3836559/0/Albumin+5+CBS+-+English+PM+-+2017-08-22.pdf/e73fb53e-b218-42e3-ade4-ee18bf0a71f7

CSL Behring Canada. 20 May 2016. Alburex 5 Alburex 25 product monograph. Control Number 187337. [accessed 11Apr22] https://labeling.cslbehring.ca/PM/CA/Alburex/EN/Alburex-Product-Monograph.pdf