Indications and Usage
Canine albumin, lyophilized 5.0 gm, is indicated for the replacement of albumin in clinical conditions where an increase in albumin and the subsequent clinical effects may be beneficial. This ABRI canine albumin product is intended to serve the same function in the recipient dog as it served in the donor animal(s). Administration of this product is a temporary means of support and not intended to permanently alleviate clinical conditions characterized by sub normal albumin levels.

Dosage and Administration
Canine albumin is recommended for intravascular administration in dogs only. The patient’s condition and the clinician’s careful judgment dictate the appropriate dosage of canine albumin administered. An accompanying document synopsizing published dosages of albumin in dogs is available at our web site www.abrint.net.

Use in Hypotensive Patients where Albumin is Indicated
Canine albumin may be administered as a hypertonic 16% (166 mg/ml) solution with the goal of acute volume expansion and maintaining an adequate intravascular volume. The total dosage and rate of administration will vary with the individual patient. In dogs with septic peritonitis, a dosage of 16% canine albumin was 800 mg/kg administered over 6 hours. Published dosages of human serum albumin used for hypovolemic canine patients range from 250-1000 mg/kg administered over 4-8 hours. When used as a slow push or bolus, human serum albumin given to acutely hypovolemic dogs had a mean dosage of 500 mg/kg. Published recommendations for the maximum dose of human serum albumin when given as a slow push or bolus to treat hypotension is 1000 mg/kg. It is recommended to carefully monitor patients receiving a hypertonic albumin solution as vascular overload may occur rapidly due to the potent oncotic effects.

Replacement or Supplementation of Albumin
The total volume of albumin solution to be administered is dependent upon the veterinarian’s assessment of the individual dog and the accompanying clinical syndrome. The goal of albumin supplementation in hypoalbuminemic dogs should be to raise plasma albumin to a maintenance level of 2.0-2.5 gm/dL. It is recommended in normovolemic dogs where albumin replacement is indicated to administer a 5% (isotonic) solution as a constant rate infusion over several hours. The following formula can be utilized to calculate the volume of 5% (50 mg/ml) canine albumin required to raise albumin to a total serum concentration of 2gm/dL (published “target” goal of most clinicians):

Volume to be administered=

Body Weight (kg) x 90 ml/kg x (2gm/dL - Patient albumin) x 0.2 dL/gm

Where
90 ml/kg= volume of distribution in plasma
0.2dL/gm= conversion factor for 5% albumin
2gm/dL= target goal of albumin supplementation

Example: 10 kg dog with 0.5gm/dL baseline albumin:
10kg(90ml/kg)(2.0gm/dL-0.5gm/dL)(0.2dL/gm)= 270 ml of a 5% (50 mg/ml) isotonic albumin solution (100 ml per vial) to raise the serum albumin to 2.0 gm/dL.

Extrapolating from the above volume dosage, 0.45 grams (450 mg) of lyophilized canine albumin/ per kilogram of body weight is required to raise the serum albumin concentration 0.5 gm/dL or 450 mg/kg of lyophilized canine albumin= 0.5 g/dL increase in serum albumin.

As a comparison to the 10 kg example given above, 675 ml of plasma would be required to reach an equivalent concentration of 2.0 gm/dL of albumin post transfusion using the conservative dosage of 22.5 ml/kg of plasma for each 0.5 gm/dL increase in serum albumin.

A validated maximum dosage of canine albumin per day has not been established. Re-dosages of canine albumin should be done with caution.

Rehydration
Lyophilized canine albumin should be rehydrated by adding 0.9% sterile saline according to the chart below. After addition of the diluent, gently swirl the vial intermittently to
**CANINE ALBUMIN, Lyophilized, 5.0gm**

Avoid foaming until all the powder is rehydrated. Do not aggressively agitate the bottle as foaming may occur. Rehydration may take 15-30 minutes with gentle swirling. The diluent may be warmed before addition to speed rehydration. Do not exceed 90°F (32°C) for the temperature of the warmed diluent.

<table>
<thead>
<tr>
<th>Concentration of Albumin for administration</th>
<th>Volume of 0.9% NaCl Diluent to be added</th>
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<tbody>
<tr>
<td>16% (166 mg/ml)</td>
<td>30 ml</td>
</tr>
<tr>
<td>5%  (50 mg/ml)</td>
<td>100 ml</td>
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**Contraindications**

Dogs with a pre-existing condition which may predispose them to volume overload should be monitored carefully during administration of hyperosmolar products like 16% canine albumin. A history of allergic reactions to albumin is a specific contraindication against use.

**Warnings and Precautions**

Vascular overload and pulmonary edema may result when albumin is infused too rapidly or inappropriately. **DO NOT use sterile water for rehydration of this product. There is a risk of intravascular hemolysis from the inappropriate use of sterile water as a diluent.**

This product is made from canine source donor plasma. As with all blood products and components there is a risk of infectious disease. The risk has been minimized by prescreening donors and carefully monitoring for bacterial growth through culture and endotoxin evaluation during processing. However, owners of patients should be made aware of the use of albumin and its possible side effects. All infections thought by a veterinarian possibly to have been transmitted by administration of this product should be reported to the Department of Veterinary Services at Animal Blood Resources International, 1-800-2HELP-K9 (800-243-5759).

**Adverse Reactions**

Potential reactions to canine albumin in recipient dogs may include nausea, peripheral vasodilation, fever, urticaria, and hypotension. Individual anaphylactic reactions cannot be ruled out but are considered extremely rare. Should an adverse reaction occur, stop the infusion and treat appropriately. If administration has been stopped and the patient requires additional albumin, therapeutics from an alternate source, such as plasma or whole blood, should be considered.

**Description**

Lyophilized canine albumin contains 5.0 grams of purified canine albumin. The product is derived using a proprietary heat shock process. SDS-PAGE techniques have validated the purity of the lyophilized product. This product does not contain preservatives with antimicrobial properties. Canine albumin is produced by pooling canine source plasma from active donors in the ABRI donor population. All source plasma must meet in-house infectious disease standards which includes donors free of Dirofilaria, Lyme, Babesia, Anaplasma, Ehrlichia, Rocky Mountain Spotted Fever, Hepatozoon, Leishmania, Neorickettsia, Bartonella and hemotropic Mycoplasmas (Mycoplasma haemocanis and Candidatus mycoplasma haematoparvum). Canine albumin does not contain DEA isoagglutins; therefore, no blood type or crossmatch is required prior to administration. It is a nonpyrogenic powder produced under aseptic conditions.

**Clinical Pharmacology**

Lyophilized canine albumin is a pure canine albumin used for intravenous infusion to replace or supplement albumin in patients for whom allogeneic albumin would be beneficial. Albumin is a highly soluble, gloubular protein which accounts for 75-80% of the colloid oncotic pressure in healthy animals. Infusion of canine albumin results in the expansion of blood volume through an increase in oncotic pressure. Albumin is also a transport protein and binds naturally occurring substances such as bilirubin, fatty acids, hormones and some therapeutic drugs. The half-life of endogenous albumin in normal dogs is approximately 8 days.

**Storage Conditions**

This product is shipped at room temperature or on ice packs. Unreconstituted canine albumin should be stored at controlled room or refrigerated temperature (34-80°F) until use. Once reconstituted, this unpreserved product must be used within six hours. Unreconstituted product is stable for 24 months post manufacturing as labeled.

**Non-Clinical Toxicology**

A study involving normvolemic beagles was performed. Canine albumin was administered once weekly for four weeks without evidence of adverse reaction. Beagles were evaluated for 5 weeks post final administration. No evidence of adverse effects or antibody formation was found.

Canine albumin is prepared and supplied by Animal Blood Resources International PO Box 609 Stockbridge, MI 49285 Phone: 800-2HELP-K9 (800-243-5759) 8 am-8pm EST Email: INFO@ABRINT.NET References and additional dosing information are available upon request or at our web site www.abrint.net.