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## LEUKOREduced FROZEN CANINE PLATELET CONCENTRATE

### Product Description

Leukoreduced frozen canine platelet concentrate is produced by cryopreserving and freezing fresh platelet concentrate. The fresh platelet concentrate collection process results in a concentrated platelet product which contains negligible RBC and WBC contaminants and as such meets the standards for classification as leukoreduced by the American Association of Blood Banks (AABB). Specifically, there is less than  $8.3 \times 10^5$  of WBCs per 100 ml unit. This leukoreduction may reduce the immunogenicity of the product and likelihood of platelet alloimmunization. Canine platelet concentrate does not contain DEA isoagglutinins; therefore, no blood type or crossmatch is required prior to administration. The hematocrit of the platelet concentrate is indiscernible by automated techniques and as such is less than  $< 1\%$ .

Canine platelet concentrate is produced from in house donors who must meet 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*).

### Indications and Usage

Each 100 ml unit contains a minimum of  $0.5 \times 10^{11}$  platelets (50 billion) with a minimum concentration of 500,000 platelets/ $\mu\text{L}$ . Both in house and independent diagnostic laboratory testing have consistently demonstrated average platelet concentrations between 600,000-800,000 platelets/ $\mu\text{L}$ . The platelets have been cryopreserved in 6% DMSO. This product is indicated for the replacement of platelets in clinical conditions where supplementation and the subsequent clinical effects may be beneficial. This ABRI canine platelet 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 thrombocytopenia/pathia. Platelet transfusions are intended to provide short-term hemostasis despite a negligible measurable increase in quantitative increase in platelet count post transfusion. When platelet transfusions are used for short term hemostasis in the actively hemorrhaging dog, there typically will not be an increase in circulating platelet concentrate post transfusion due to consumption of the transfused

platelets. Additional research has documented that as platelets are activated they release agents such as platelet-derived growth factor, epidermal growth factor, vascular endothelial growth factor, and insulin derived growth factor, which promote tissue repair and angiogenesis. Because of the unclear nature of platelet function, viability, and splenic sequestration, a quantitative post-transfusion platelet count in the patient cannot be predicted with accuracy.

### **Storage Conditions**

This product must be stored at a temperature not greater than -20 degrees Celsius. Typically, a common household freezer is adequate. An ultra-cold freezer (-80 degrees Celsius) is also adequate. However, *frostless freezers* may result in partial thawing of the product which will activate the platelets and diminish their lifespan.

### **Expiration**

This product expires 6 months from the date of shipping. A specific expiration date is indicated on the product label. Once the product is thawed, either partially or wholly, it must be utilized- it CANNOT be refrozen.

### **Thawing**

Platelets should be allowed to come to room temperature by taking them out of their protective envelope and placed on a counter. WARM WATERBATH THAWING IS NOT RECOMMENDED. The platelet bag should be gently swirled every 5 minutes during the thaw process. Once the platelet concentrate is fully thawed, allow it to sit on the

counter for 15 minutes before using. Once the product is thawed, either partially or wholly, it must be utilized- it **CANNOT** be refrozen.

### **Dosage and Administration**

This product should be given at a dosage of one platelet concentrate unit per 10 kilograms (22 pounds). The total platelet infusion should be given within 4 hours of thawing. Rapid infusion may lead to bradycardia due to the presence of DMSO. An in-line blood filter should be used for administration. Use of a fluid pump is not recommended due to damage to the platelets. Because there is no standard dose that treats all patients in all clinical settings, the clinician's careful judgment must dictate the appropriate dosage and administration on a case by case basis.

### **Adverse Reactions**

As with any transfusion product both immunological and non-immunological transfusion reactions are possible. This risk has been mitigated by the leukoreduction of this platelet concentrate. Leukoreduction may reduce the immunogenicity of the product and likelihood of platelet alloimmunization. Transfusion reactions which may occur are fever, vomiting, panting, and bradycardia (if product is administered too quickly). If any of these occur stop the transfusion immediately, treat the patient appropriately, and notify ABRI of the adverse reaction.

References are available at [www.ABRINT.net](http://www.ABRINT.net)