ACP Max™ Syringe Systems

Equine White Paper

Mechanism of Action

Outside the bloodstream, platelets become activated and release proliferative and morphogenic proteins. They appear to work synergistically to invoke the following benefits[1-3]:

- Induce proliferation and differentiation of various cell types (eg, progenitor cells, osteoblasts, epidermal cells)[1,3]
- Enhance/modulate production of collagen, proteoglycans, and tissue inhibitor of metalloproteinases (TIMP)[2,3]
- Stimulate angiogenesis and chemotaxis[1,3]

To evaluate the differences between ACP Max platelet-rich plasma (PRP) and whole blood, PRP was prepared from the venous blood of 6 healthy equine donors, and the concentration of platelets, red blood cells (RBCs), and white blood cells (WBCs) was measured with a standard complete blood cell count. It was found that 30 mL, 60 mL, and 90 mL volumes in the ACP Max system produced PRP with 2.8, 4.6, and 6.4 times as many platelets as in whole blood, respectively.[4] For all processing volumes, there was an average reduction of 19% to 80% WBCs (specifically 63% to 90% reduction of neutrophils) and 99.9% reduction of RBCs.

Figure 1. Platelet Concentration

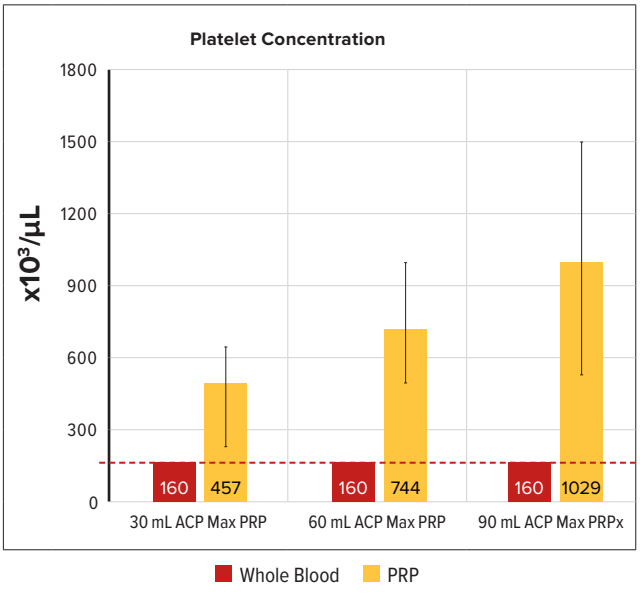


Figure 2. WBC Concentration

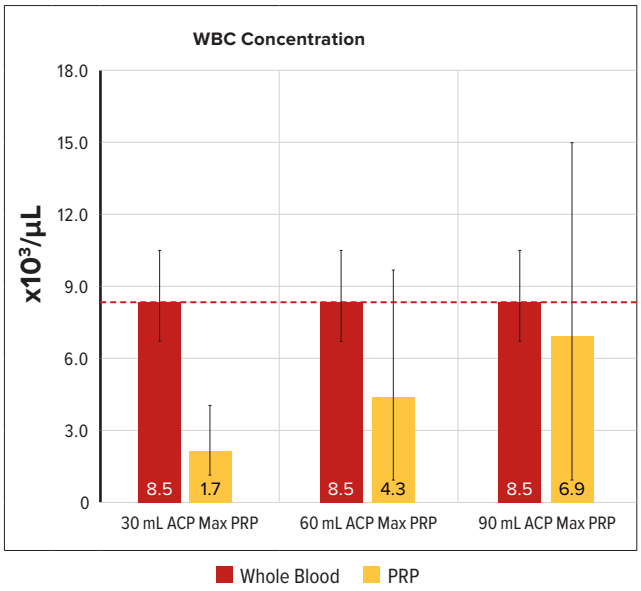
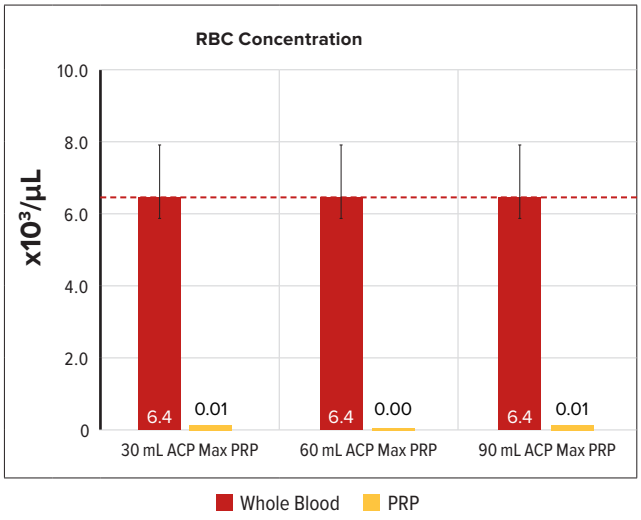


Figure 3. RBC Concentration



References

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arthrex.com