

# ART PRP Plus™

# System

Platelet Rich Plasma  
Concentration Systems

Autologous  
Point of Care  
Platelet Rich Plasma

The ART PRP™ Plus has an integrated filter system for the concentration of proteins from the platelet poor plasma (PPP). The PPP contains proteins like Alpha-2 Macroglobulin (A2M), Interleukin-1 Receptor Antagonist Protein (IRAP), and other essential growth factors.



By transferring the plasma from one syringe on Port “B” to another syringe on Port “C” the growth factors and beneficial proteins travel through hundreds of hollow, nanoporous fibers. During this process, water and salt ions are pushed out while the beneficial proteins are retained and concentrated.

## FEATURES

- Nearly closed systems offers multiple connection ports
- Thumb-wheel allows precise recovery of the targeted cell layer
- Large aperture collection window
- Manual collection accommodates full spectrum of hematocrit levels
- Adjustable flow valve diverts fluid without additional sterile breaks
- Adjustable flow valve simplifies separation/combining of cells and proteins
- ART PRP TM Plus concentrates platelet poor plasma (PPP) using nanoporous fibers
- ART PRP TM Plus reduces 60 mL whole blood to 25-30 mL of PPP and nano-filtration further concentrates to 3-5 mL concentrated PPP

## BENEFITS

- Minimizes sterile breaks where contamination occurs
- Easy separation of fluid fractions (e.g. PRP, PPP); Processes anywhere from 50 cc up to 60 cc of whole blood
- Eliminates turbulence reducing cell velocity that can lyse cells
- Increases cell recovery rates; other fully automated designs compromise recovery rate
- Keeps Buffy Coat in the collection zone yielding 3 cc to 5 cc on average of PRP (Buffy Coat) from a typical 60 cc volume of whole blood
- Manual manipulation is the critical feature that produces optimal recovery and a customized final product
- Provides for the highest concentration so that more cells can be delivered in the smaller volume

<sup>1</sup>Murphy et al. Adult and umbilical cord blood-derived platelet-rich plasma for mesenchymal stem cell proliferation, chemotaxis, and cryo-preservation. *Biomaterials* 2012; 33(21):5308- 5316. <sup>2</sup> Wang et al. Identification of alpha-2-macroglobulin as a master inhibitor of cartilage-degrading factors that attenuates the progression of posttraumatic osteoarthritis. *Arthritis & Rheumatology* 2014;66(7):1843-1853 <sup>3</sup>Cassano et al. Bone marrow concentrate and platelet-rich plasma differ in cell distribution and interleukin 1 receptor antagonist protein concentration. *Knee Surg Sports Traumatol Arthrosc*, 1 Feb 2016. <sup>4</sup> Data on File. Celling Biosciences, 2016 <sup>5</sup> Lopez-Vidriero et al., The use of autologous platelet-rich plasma (platelet gel) and autologous platelet-poor plasma (fibrin glue) in cosmetic surgery. *Plast. Reconstr. Surg.* 107, 229–237; discussion 238–239. 2010; <sup>6</sup> AhmedA, et al. Alpha-2-Macroglobulin: A Physiological Guardian, *Journal of cellular physiology*, 2013 - Wiley <sup>7</sup> Sanja Arandjelovic, et al. A derivative of the plasma protease inhibitor 2-macroglobulin regulates the response to peripheral nerve injury, *Journal of Neurochemistry*, 11 July 2007