



## SuperShot<sup>®</sup>: A More Complete Platelet-Rich Plasma

In Standard Platelet-Rich Plasma (PRP) centrifugation, potent biological agents are discarded with the Platelet-Poor Plasma (PPP).

Blood plasma is rich in low density Extracellular Vesicles (EVs). EVs transport proteins and microRNAs that are essential for tissue regeneration, healing, vascularization, and rejuvenation.

Standard PRP centrifugation does not isolate EVs and the important therapeutic molecules they contain within.

With SuperShot<sup>®</sup> technology, EVs are quickly isolated and incorporated into your PRP, resulting in a more complete PRP therapy.



### SuperShot®: Fast, Easy, & Autologous

**Fast** – SuperShot<sup>®</sup> adds just one spin to the PRP preparation process.

**Easy** – SuperShot<sup>®</sup> requires minimal training and no additional equipment.

Autologous – SuperShot<sup>®</sup> isolates key molecules from the patient's own plasma.





Low-density EVs are isolated from platelet-poor plasma with SuperShot  $^{\ensuremath{\$}}$  .

Distinct types of extracellular vesicles are isolated and added to PRP, including microRNAs.

**845 billion** unique extracellular particles (169B/mL) with an average diameter of 130nm were isolated from 5cc of platelet-poor plasma by the SuperShot<sup>®</sup> process.



#### SuperShot®: More microRNAs

Extracellular vesicles in the plasma carry potent biologically active molecules including non-coding microRNAs. MicroRNAs are critical signaling components during wound healing, tissue regeneration, and neovascularization.

SuperShot<sup>®</sup> technology enables the isolation of low-density EVs, increasing their concentration in PRP, and the important microRNAs they carry within.



MicroRNAs identified in PRP or SuperShot<sup>®</sup> enriched PRP via single-end sequencing on an Illumina Hiseq 2500. A dual spin PRP centrifugation system was used to process peripheral whole blood from a healthy donor.

Extracellular microRNAs isolated by SuperShot® target numerous key gene pathways.



Gene pathways targeted by microRNAs in the EVs isolated from platelet-poor plasma by SuperShot® via single-end sequencing.

#### SuperShot®: Stem Cell Support

The EVs isolated with SuperShot<sup>®</sup> from Platelet-Poor Plasma **stimulated Mesenchymal Stem Cell growth** in 5 days of cell culture, indicating that EVs isolated by SuperShot<sup>®</sup> supports stem cell growth.



Bone marrow Mesenchymal Stem Cells cultured for 5 days in control conditions, or with the addition of the EVs isolated from platelet-poor plasma produced from PRP process. A dual spin PRP centrifugation system was used to process peripheral whole blood from a healthy donor.



# SuperShot<sup>®</sup>: Autologous & Appropriate

The EVs isolated by SuperShot<sup>®</sup> are autologous and collected and used at point-of-care, not shipped, or stored before use.

EVs and the microRNAs they contain within are damaged by freezing and lyophilization. Aside from introducing serious risks such as infection from prions or viruses, allogeneic products are functionally degraded by processing and storage.



EVs isolated from platelet poor plasma by SuperShot® vs. allogeneic mesenchymal stem cell derived extracellular vesicle product, analyzed by the NanoSight imaging device. SuperShot® EF included 78,000,000,000 particles/mL; MSC EV product included 540,000,000 particles/mL.

The leading allogeneic mesenchymal stem cell EV product contained just 0.6% of the EVs isolated by SuperShot<sup>®</sup> from 5cc of Platelet-Poor Plasma.



MicroRNAs identified in extracellular fraction isolated from platelet poor plasma by SuperShot® vs. allogeneic mesenchymal stem cell derived EV product via single-end sequencing on an Illumina Hiseq 2500. A dual spin PRP centrifugation system was used to process peripheral whole blood from a healthy donor.

The leading allogeneic mesenchymal stem cell-derived EV product contained trace levels of microRNAs compared to those detected in the extracellular fraction isolated by SuperShot® from 5cc of Platelet-Poor Plasma.

#### The SuperShot® Difference

In a standard PRP preparation, whole blood is centrifuged into three components, separated by density: red blood cells, Platelet-Rich Plasma, and Platelet-Poor Plasma.

In SuperShot<sup>®</sup> PRP, the Platelet-Poor Plasma is centrifuged one additional time using the SuperShot<sup>®</sup> patent-pending aqueous two-phase system, that precipitates low-density lipid-rich EVs from the Plasma.



The Extracellular Vesicles isolated by SuperShot<sup>®</sup> are added to the PRP, resulting in a more complete PRP.

### SuperShot®: Simple, Self, & Safe

**SuperShot® is quick and easy.** With just one additional 1-minute spin, SuperShot® adds hundreds of billions of therapeutic EVs (and the important signaling molecules they contain within) to your PRP.

**SuperShot**<sup>®</sup> **leverages the patient's own biology.** Isolation of the low-density EV fraction from the patient's plasma results in a more complete PRP.

SuperShot<sup>®</sup> does not use allogeneic or xeno-sourced materials. SuperShot<sup>®</sup> PRP is 100% autologous, which means no risk from donor pathogens, unknown sourcing, unproven allogeneic biologics, or immuno-rejection.





