

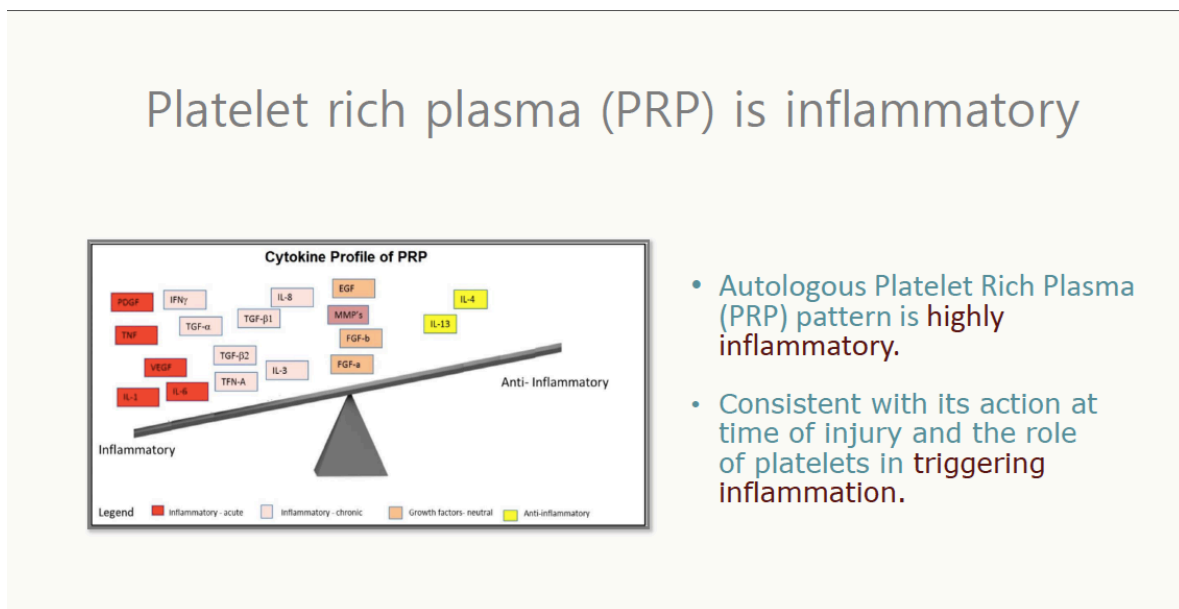
# Procell Microchannel Delivery Serum Products Compared to PRP

**PRP** is “Platelet Rich Plasma” – PRP is “autologous”, meaning it is derived from the patient’s body. PRP is blood plasma that has been enriched with platelets via centrifuge, facilitating the separation out of other blood products and the expression of “cytokines”.

**Cytokines** are part of a family of proteins sometimes called “growth factors” or “peptides”. These proteins are essential to tissue regeneration, and have been shown to enhance skin rejuvenation.

PRP typically contains the following cytokine array:

Platelet-Derived Growth Factor, (PDGF) Vascular Endothelial Growth Factor, (VEGF), Transforming Growth Factors (TGF’s A, B1, B2), Epidermal Growth Factor (EGF), Fibroblastic Growth Factors (FGF) FGFa, FGFb, Interleukins (IL) IL1, IL3, IL4, IL6, IL8, IL-13, IL-17, tumor necrosis factor (TNF)- $\alpha$ , Interferon (IFN- $\alpha$ ) and Matrix Metalloproteinase, (MMP).

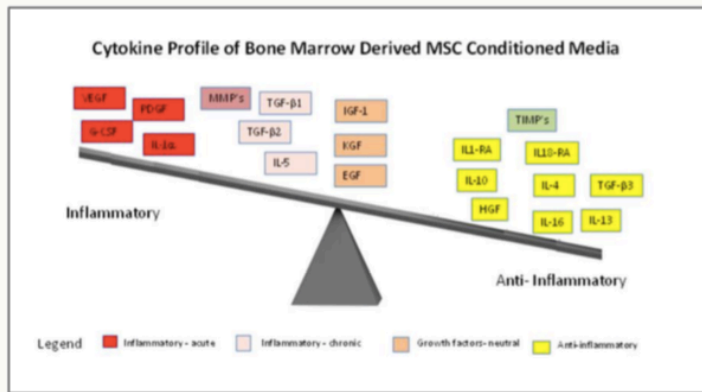


**Procell Microchannel Delivery Serum** are sourced from a human derived Mesenchymal Stem Cell conditioned media. Bone marrow is donated by healthy, screened athletes with an average age of 22 years. Mesenchymal Stem Cells are isolated via centrifuge, set up in culture and stimulated by placing distressed human skin & fibroblast cells in the culture to release the cytokines specific to wound healing in human skin. The cytokines are isolated & purified via filtration to remove all other biological materials. Procell Microchannel Delivery Serum products contain the following cytokine array:

Vascular Endothelial Growth Factor, (VEGF), Granulocyte-Colony Stimulating Factor (G-CSF), Platelet Derived Growth Factor, (PDGF), Fibroblastic Growth Factors (FGF) FGFa, FGFb, Insulin Like Growth Factors - (IGF) IGF1\*, Interleukin Growth Factors (IL) - IL1a, IL1PA, IL4, IL10, IL-13, IL-16, Matrix Metalloproteinase, (MMP), Transforming Growth Factors, (TGF) – TGFB1 & TGFB2 & TGFB3\*, Epidermal Growth Factor (EGF), Keratinocyte Growth Factor, (KGF), and Tissue Inhibiting Metalloproteinase, (TIMP).

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## BM-MSC Conditioned Media



- Highly anti-inflammatory pattern.
- Cell source volunteer donors, average age 22 years.
- Close medical monitoring
- Younger cells replicate faster, produce greater quantities of growth factors and cytokines in culture.
- BM-MSC appear to have distinct advantages over all other cytokine sources.

Comparison – Both sources include a beneficial cytokine array.

- Autologous cytokines are only as good as the aging client's body is able to produce
- Platelets are a fully differentiated cell type, and produce a limited, inflammatory cytokine array
- PRP is much more **cumbersome and expensive** to the patient
- Human mesenchymal stem cells contain the DNA hardware to produce a more complete cytokine array than fully differentiated platelets (or other media like fibroblasts, adipose cells, and other animal and plant sources)
- Procell Microchannel Delivery Serum products provide a more robust array of anti-inflammatory cytokines
- The Procell Microchannel Delivery Serum formulation not only enhances cell communication, division, proliferation and cell survival via "Growth Factors". It also includes a better balance of the tissue inhibitors (Metalaprotienases) that "turn off" the wound healing cascade
- The Procell Microchannel Delivery Serum formulation safely and effectively augments the entire wound healing cascade from start to finish with the most exhaustive array of cytokines available