Proline Rich Polypeptides (PRPs)

PRPs are probably the most important component in Colostrum.

PRPs are generally characterized by PRP1, PRP2, PRP3, and to a lesser level PRP4 and PRP5. PRP1 is the inactive non-protein nitrogen component, PRP2 and PRP3 are most active. PRP2 are thought to contain active peptides that are used to modulate cytokine levels in the body particularly IFN-beta or beta-interferon, which have anti-viral properties. PRP3a and PRP3b contain active peptides that modulate the IFN-alpha cytokine levels in the body which is used in modulating auto-immune responses.

PRP's are also called Transfer Factor, Info-Peptides, Info-Proteins, or Cytokine Precusors. PRP's are hormones that regulates the thymus gland (bodies central command for the immune system), stimulating an under active immune system or down-regulating an overactive immune system as seen in autoimmune disease. PRP inhibit the overproduction of lymphocytes and T-cells.

"PRP activates an underactive immune system, helping it move into action against disease-causing organisms. PRP also suppresses an overactive immune system, such as is often seen in the autoimmune diseases. PRP is highly anti-inflammatory and also appears to act on T-cell precursors to produce helper T-cells and suppresser T-cells" ...Drs. Staroscik, et. al., Molecular Immunology....

"PRP turns white blood cells into functionally active T cells. Results were shown in treatment of auto-immune disorders and cancer. An important Immune modulator stimulates an underactive immune system and tones down an overactive one"...Drs. Janusz & Lisowski; Archives of Immunology.

Cytokines

Cytokines are the bodies intracellular communication system.

They are produced in the human body by the actions of the PRP proteins. Two main cytokines that are produced by PRP include IFN-alpha and IFN-beta. The function and applications of just these two cytokines are described in the literature below. Cytokine's Interlukin 1 & 6, Interferon Y and Lymphokines are shown to stimulate the lymph glands and are thought to be highly effective antiviral immune substance. Interleukins that regulate the duration and intensity of the immune response are responsible for cell to cell communication, boost T-cell activity and the production of immunoglobulins. Interleukin-10 is strongly anti-inflammatory, especially in arthritic joints.

The benefit of cytokines in the treatment of cancer was first popularized by the 1985 Steven Rosenberg Book, Quiet Strides in the War on Cancer. Since that time, the same cytokines found in colostrum (Interleukins 1, 6, 10, Interferon Gamma, Leukocytes and Lymphokines, tumor necrosis factor) have been one of the most researched protocols in scientific research for cancer.

Glycoproteins (Protease inhibitors)*

A digestive factor that has been shown to help immune and growth factors survive the passage through the highly acidic digestive system.

Growth Factors*

IgF-1 (IgF1), Growth hormone (GH), Insulin-like growth factor-I and II (IGF-1 and IGF-II), Epithelial growth factor (EgF),Fibroblast growth factor (FgF), Platelet-derived growth factor (PDGF),Transforming growth factors A & B (TgA and B) - are naturally occurring substances that have been studied for their ability to enhance the synthesis of DNA, RNA and protein. Human Growth Hormone (HGH) has been studied to exert most of its beneficial effect through the downstream production of IgF-1 (IgF1) in the body. IgF-1 (IgF1) is Insulin-Like Growth Factor-1 (HGH) and supports the normal function of insulin, decreases body fat, stimulates lean body mass (MUSCLE) development and promotes tissue repair.