Research References and Educational Information

BOVINE COLOSTRUM

Immunoglobulin from bovine colostrum effectively reduces and prevents viral and bacterial infections in immune deficient subjects: bone marrow recipients, premature babies, AIDS, etc. **New England Journal of Medicine**

Colostrum and breast milk (from cows and humans) stimulates the newborn's immune system; as yet, unidentified proteins speed the maturation of cultured B Lymphocytes (type of white blood cell) and primes them for production of antibodies. **Dr. Michael Julius Of McGill University, Montreal, Canada Science News**

Glycoproteins, in bovine colostrum, inhibit the attachment of the Helicobactor Pylori bacteria that cause stomach ulcers. Colostrum contains significant amounts of Interlukin-10 (a strong inflammation inhibitory agent), found significant in reducing inflammation in arthritic joints and injury areas. **Dr. Olle Hernell, At the University of Ulmea, Sweden; Science**

Immunoglobulin in colostrum has been used to successfully treat: Thrombocytopenia, Anemia, Neutropenia, Myasthenia Gravis, Guillain Barre Syndrome, Multiple Sclerosis, Systemic Lupus, Rheumatoid Arthritis, Bulluos Pamphigoid, Kawasaki's Syndrome, Chronic Fatigue Syndrome and Crohn's disease, among others. **Dr. Dwyer; New England Journal of Medicine**

Colostrum is "Nature's Healing Miracle", according to prominent medical doctor Donald Henderson. Medical Research shows that Colostrum is possibly the one supplement that can help everyone that's ill. And, it's the most important preventative supplement you'll ever find.

Colostrum has a virus antibody that acts against viral invaders. A wide range of antiviral factors were acknowledged to be present in colostrum. **This research was done at the US Government's Center for Disease Control in Atlanta, Georgia. Dr. E.L. Palmer, et. al.; Journal of Medical Virology**

Colostrum contains Non Specific Inhibitors that inhibit a wide range of respiratory illness, notably Influenza viruses. Colostrum is specifically cited for its unique effectiveness against potentially deadly outbreaks of Asian Flu viruses that emerge from animal/human mutations. **Drs. Shortridge, et.al.; Journal of Tropical Pediatrics**

Human clinical study: Immune factors in cow colostrum, when taken orally, are effective against disease-causing organisms in the intestinal tract. Ingestion of bovine colostrum's immunoglobulins may be a new method of providing passive immunoprotection against a host of gut-associated disease causing antigens (viral and bacterial). **Dr. R. McClead, et. al.; Pediatrics Research**

Studies with human volunteers found that the preservation of the biological activity of IgG (Immunoglobulin), in the digestive secretions of adults receiving bovine colostrum orally, indicates passive enteral (intestinal) immunization for the prevention and treatment of acute intestinal diseases. **Dr. L.B. Khazenson; Microbial & Epidemial Immunobiology**

Colostrum stimulates the lymphoid tissue providing benefits in aged or immunodeficient people. Nature has used the oral route for the development of the immune system since the origin of mammals (safe and effective). Oral administration of immunofactors is simple,

inexpensive, free of side effects and may be vastly beneficial in veterinary and HUMAN medicine, to correct immunodeficiency. **Drs. Bocci, Bremen, Corradeschi, Luzzi and Paulesu; Journal Biology**

Researchers reported that colostrum stimulates maturation of B Lymphocytes (type of white blood cell) and primes them for production of antibodies, enhances growth and differentiation of white blood cells. Similar activity in cow and human colostrum can also activate Macrophages. Dr. M. Julius, McGill University, Montreal: Science News

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PRP, in bovine colostrum, has the same ability to regulate activity of the immune system as hormones of the Thymus gland. It 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 was found not to be species specific (transferable for human use). 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**

Bovine Colostrum contains TgF-B which has an important suppressive effect on cytoxic substances (anti-inflammatory). Inhibits cell growth of human Osteosarcoma (cancer) cells (75% inhibition). Mediator of fibrosis and angiogenesis (healing of heart muscle and blood vessels), (Roberts et al., 1986), accelerates wound healing (Sporn et al.., 1983) and bone formation (Centrella et al., 1987). **Drs. Tokuyama and Tokuyama; Cancer Research Inst. Kanazawa Univ. Japan**

Only Retinoic acids, found in colostrum, conferred protection and reduced colonization of the Herpes Virus. Although not a cure, Retinoic acids effectively reduce the Herpes Virus to levels (1/100 to 1/10,000 viruses remained active after treatment) where the body's immune system could fight off an outbreak. **Drs. Charles Isaacs, et. al.; Experimental Biology; Science**

Growth factors in bovine colostrum were found to be very effective in promoting wound healing. Recommended for trauma and surgical healing. External and internal applications. **Drs. Sporn, et. al.; Science**

IGF-1, found in colostrum, stimulates bone and muscle growth and nerve regeneration. Also found: topical administration to wounds resulted in more effective healing. **Drs. Skottner, Arrhenius-Nyberg, Kanje and Fryklund, Acta. Paediatric Scandinavia, Sweden**

High age is associated with reduced levels of growth hormones: GH and IgF-1. Induction of GH and IgF-1 increase body weight through muscle growth of aged subjects. **Drs. Ullman, Sommerland & Skottner, Dept. of Pathology and Pharmacology, Univ. of Gothenburg, Sahlgren Hospital & HabiVitrum AB, Stockholm, Sweden**

Bovine colostrum contains high levels of growth factors that promote normal cell growth and DNA synthesis. **Drs. Oda, Shinnichi, et. al.; Comparative Biochemical Physiology**

The failure of chronic wounds to heal is a major medical problem. Drs. suggest that an important role for growth factors is in promoting wound healing. Accelerated healing is possible for treatment with trauma and surgical wounds. **Drs. Bhora, et. al.; Journal. Surg. Res**

Cartilage Inducing Factor-A, found in colostrum, stimulates cartilage repair. **Drs. Seyedin, Thompson, Bentz, et. al.; Journal of Biological Chemistry**

Clinical studies show that IgE (Immunoglobulin), found in bovine colostrum, may be responsible for regulating allergic response. **Drs. Tortora, Funke & Cast; Microbiology**

Immunoglobulins (found in colostrum) are able to neutralize the most harmful bacteria, viruses, and yeasts. **Dr. Per Brandtzaeg; Annals of the New York Academy of Sciences**

Reducing viral levels in the body and stimulating natural immune capabilities holds the most promise in helping our immune systems contain the HIV virus. **Drs. Nowa and McMichael; Scientific American**

Colostrum contains Retinoic Acid which helps fight Herpes Virus. Also contains Glycoprotein (kappa casein) that protects against the bacteria that cause stomach ulcers. **Dr. Raloff, Science News**

Concentration of Lactoferrin and Transferrin in bovine colostrum found necessary to transport iron into blood. Highest concentrations of both substances were found in the first milking after birth. **Drs. Sanchez, et al, Biological Chemistry**

IMMUNE FACTORS: Medical and clinical studies show immune factors in colostrum fight Viruses, Bacteria, Yeast, Fungus, Allergens and Toxins.

IMMUNOGLOBULINS: Have been shown to provide a superior defense in both treatment and prevention of viral infections, bacterial infections, allergies, fungus and yeast. High quality Colostrum must be certified to contain a minimum of 18% immunoglobulins.

ANTIBODIES: Colostrum has been shown to contain specific antibodies to more than 19 specific disease-causing pathogens including; E. coli, salmonella, candida, streptococcus, staphylococcus, h. pylori, cryptosporidium and rotavirus.

PRP (Proline-rich Polypeptide): Shown to help regulate the thymus gland (bodies' central command for the immune system). PRP can both stimulate a weakened immune system and/or balance an overactive immune system, as in the case of many autoimmune diseases.

LACTOFERRIN: An iron-binding protein with antiviral, antibacterial, anti-inflammatory properties. Lactoferrin has been implicated in the treatment of such diseases as cancer, HIV, herpes, chronic fatigue, candida albicans and other infections.

GLYCOPROTEINS: (protease and trypsin inhibitors)

Protect the immune and growth factors in colostrum from destruction by the digestive juices in the stomach and intestinal tract.

LACTALBUMINS: Research indicates tremendous possibilities that Lactalbumins can be highly effective against numerous forms of cancer and viruses. Lactalbumin has also been

shown in vulnerable subjects to raise brain serotonin activity, reduce cortisol concentration, and improve mood under stress.

CYTOKINE'S: INTERLUKIN 1 & 6, INTERFERON Y AND LYMPHOKINES: Chemicals that are involved in cell-to-cell communication, antiviral and anti-tumor activity and regulation and intensity of immune responses. Cytokines help increase T-cell activity and stimulate production of immunoglobulins. One cytokine, interleukin-10, is a potent anti-inflammatory agent that has been shown to have a profound effect on pain relief. Interleukins have shown particular promise in fighting cancer.

LYSOZYMES: Helps protect the body from bacterial infections. Lysozyme has actually been shown to destroy bacteria on contact. May be an effective topical antibiotic.

GROWTH FACTORS: Medical studies have shown that the vital growth factors from bovine colostrum are practically identical to human colostrum in composition. Furthermore, it has been shown that growth factors stimulate normal growth, as well as help regenerate and accelerate the repair of aged or injured muscle, skin collagen, bone, cartilage and nerve tissues. Growth factors also stimulate the body to burn fat for fuel instead of the body's own muscle tissue in times of fasting (diet) and build lean muscle. In addition, growth factors can be used as an effective topical application for burns, injuries and skin rejuvenation.

Epithelial Growth Factor (EGF): EGF is instrumental in protecting and maintaining the skin. Along with the other growth factors in colostrum, EGF can stimulate normal skin growth and repair cellular tissue.

Insulin-like Growth Factor I and II: (IGF-I & IGF-II) IGF I & II are the most abundant growth factors in colostrum. They affect how the body uses fat, protein and sugar. IGF-I is one of the only substances known to stimulate the repair and growth of DNA and RNA, making it one of the most powerful anti-aging substances. IGF-I has been clinically proven to help increase lean muscle mass and may help regulate blood sugar and cholesterol levels.

Transforming Growth Factors A & B: (TGF A & B) TGF stimulates the proliferation of cells in connective tissue and assists in the formation of bone and cartilage. It is also showing promise as a therapeutic agent in bone and wound healing. TGF can help repair tissue and may support the development of growth of the lining of the gut.

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Platelet-Derived Growth Factor: (PDGF) PDGF has been shown to help with cell division in connective tissue, smooth muscle, and fibroblasts. It may also assist in neuron survival and regeneration.

VITAMINS AND MINERALS: Colostrum is not a supplement... it is the whole food for the newborn... its combination of vitamins and minerals are naturally occurring and in perfect combination**. (Center for Nutritional Research 1996-2001)**