

# BOVINE COLOSTRUM AS A HUMAN SUPPLEMENT

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Colostrum is a thick yellow fluid produced from the mammary glands during the first days after birth. This fluid is so important for a new born, that without it, many newborn mammals would simply die. Colostrums is not only a source of nutrients such as proteins, carbohydrates, fat, vitamins and minerals, but it also contains several biologically-active molecules which are essential to the body's immune and growth functions. Human colostrums as a supplement is not a feasible option. So researches were focused on Bovine Colostrums. After several years of research, scientists now believe that bovine colostrums is the most natural alternative for human consumption. Both the immune and growth factors found in bovine colostrums virtually identical to those in human colostrums, the immune factors are reportedly four times richer. Bovine colostrums contains special glycoproteins and protease inhibitors, which are found extremely effective in protecting colostrums active components from the destructive forces of the human body's digestive system. Bovine Colostrums as Human feed supplements should be taken only from cows that are free of antibiotics, pesticides and synthetic hormones (Colostrums that are marketed are tested by a certified laboratory). After humans reach puberty, the amount of immune and growth factors present in our bodies begins to decline. We become more vulnerable to disease, our energy level and enthusiasm lessens, our skin loses its elasticity, and we gain unwanted weight and lose muscle tone. We also live in a toxic environment, with pollutants and allergens all around us. Supplementing your diet with colostrums can help restore these immune and growth factor levels, no matter how old you are. You can likely slow and possibly even reverse the natural aging process.

Protection from colostrums for the newborn calf is the function of three variables: timing, quantity and quality. First colostrums are the newborn calf's only form of protection to infectious disease.

Bovine Colostrums for humans supplements should not be over heated and must be processed carefully while manufacturing. Colostrums should be minimally

processed at the lowest temperature possible. High temperatures can destroy some of colostrums vital components and denature the product. Bovine Colostrums as Supplements are flash pasteurized and freeze-dried or spray-dried using low temperatures. This is the most effective way of preserving vital components in colostrums. At the same time while processing the colostrums at low temperature there is a chance of bacterial growth which should be monitored by the manufacturers. possible. High-quality colostrums are manufactured from high-quality cattle and high-quality processing. New Zealand colostrums are usually preferred by manufacturers because of its dairies stringent standards of quality. Also, New Zealand colostrums comes from cows mostly pasture-fed or even 100% pasture fed, (Pasture feeding exposes cows to the live enzymes and nutrients found in the soil and they produce more antibodies to disease-causing pathogens in their colostrums, which can help support our immune system when taken as a supplement.) Colostrums from certified New Zealand Dairies an even better choice. Another major competitor is USA. Usually manufacturers reserve the first milking for the calf and subsequent milking are taken for manufacturing supplements. But some companies claim that they use "first milking" colostrums. Since colostrums contains little lactose. Generally, people who are lactose-intolerant should experience no problems when taking colostrums. Also, some lactose-intolerant people have reported being able to eat some dairy products after taking colostrums for approximately six to eight weeks. Some liquid colostrums on the market has no lactose content because the lactose has been filtered out, and is a suitable choice for people who choose a completely lactose-free diet.

While a cow produces a substantial amount of colostrums, the initial colostrums or "first milking" contains a significant amount of fat and proteins that must be received by the calf right away for

proper absorption. These factors are most beneficial to the newborn calf, but not necessarily as important to humans. Colostrums collected after the first 6 hours still contain all of the beneficial factors that we value. After about 48 hours, the colostrums become transitional milk and finally full milk at about 72 hours.

Fats help colostrums disperse and dissolve, and are therefore an important component in colostrums. The problem is that fats also become rancid quickly. So colostrums with its full fat content intact will spoil quicker. Hence Bovine colostrums are usually defatted colostrums and have the advantage of having a much longer shelf life. However, some American based companies claim that defatted colostrums is missing some vital components. Colostrums from certified New Zealand Dairies generally have the fat left intact.

**Composition/Active ingredients:** There are over 90 known components in colostrums. All of these factors work together in perfect synergy to restore and maintain health.

Immunoglobulin (IG) level has been the most common measurement used to determine colostrum quality for calves. Immunoglobulins have been shown to provide a superior defense in both treatment and prevention of viral infections, bacterial infections, allergies, fungus and yeast. There are five types of immunoglobulins present in colostrums, specifically IgA, IgD, IgE, IgG, & IgM. Bovine colostrums contains mostly IgG with very small amounts of IgA, IgD, IgE, and IgM. Human colostrums typically contains 2% IgG content, while bovine colostrums can have from 8% to above 25% IgG content. These are protein molecules that are effective in fighting bacterial and viral infections (rotavirus, h. pylori, cryptosporidium, salmonella, candida, streptococcus, staphylococcus and E. coli etc.), parasites, and yeast. Immunoglobulins are energizing elements in colostrums that are anti-inflammatory in nature. Colostrums also contains PRP (Proline-rich Polypeptide) which help to regulate the thymus gland and stimulate a weakened immune system, as well as balance an overactive immune system, as in the case of many autoimmune diseases. Another ingredient in Colostrums is Lactoferrin which is 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 in colostrums (protease and trypsin inhibitors) protect the immune and growth factors in colostrums from destruction by the digestive juices in the stomach and intestinal tract. Lactalbumins can be highly effective against numerous forms of cancer and viruses and has also been shown in vulnerable subjects to raise brain serotonin activity, reduce cortisol concentration, and

improve mood under stress. Cytokines in colostrums such as Interleukin 1 & 6, Interferon Y & Lymphokines 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 in colostrums, interleukin-10, is a potent anti-inflammatory agent having profound effect on pain relief. Interleukins have shown particular promise in fighting cancer. Lysozymes in colostrums help protect the body from bacterial infections.

Growth Factors in bovine colostrum are practically identical to human colostrums 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) in colostrums protects and maintain the skin and can stimulate normal skin growth and repair cellular tissue. Insulin-like Growth Factor I and II (IGF-I & IGF-II) are the most abundant growth factors in colostrums and has a role in utilizing the body 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. Another growth factor in colostrums, Transforming Growth Factors A & B (TGF A & B) 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. Platelet-Derived Growth Factor (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. The vitamins and minerals in colostrums are naturally occurring and naturally balanced.

**Suggested Use:** (Use in consultation with a medical practitioner only. This is only to provide information )

Every person differs on the amount of Colostrums

that is needed. It has been suggested that for best results, Colostrums should be taken in larger doses initially and then lowered after desired results are obtained. If benefits decrease, go back to your initial intake. For best results, begin with 4-6 capsules (2,000 to 3,000 mg.) taken twice a day. You could take Colostrums when you wake in the morning and your stomach is empty and then again maybe a couple of hours after lunch. If you have trouble sleeping, try to take your dosages early in the day. Some people may experience a healing incident as the body releases toxins (digestive problems, skin eruptions, rashes or flu-like symptoms). These symptoms usually disappear in a couple of days. It's interesting that if you listen to your body, you become aware of where Colostrums has gone in your body to do its work. Colostrums growth factors may create initial pain in areas of old wounds or injuries as it heals. If this becomes uncomfortable, you may want to cut back on the Colostrums for a few days and then resume at a lower quantity, increasing your intake slowly as you reach optimum levels.

Bovine colostrums as human feed supplements are even used by athletes to improve performance. Body-builders use colostrums to increase muscle mass. It's best to take the colostrums 30-45 minutes before workout. Athletes often use 3000-6000 milligrams per day. This is the recommended usage, although many body-builders use more. Bovine colostrums can be consumed in any quantity without side effects or drug interactions. Bovine colostrums has a very good effect in Children in circumstances such as lingering or reoccurring viral and bacterial infections, etc and is being extensively used by pediatricians. Colostrums works best if it is taken in capsule form, on an empty stomach with water. Do not take any other supplements with Colostrums and wait at least twenty minutes before you eat. Bovine colostrum supplement is available both as capsule and powder. For maximum immune system benefit, the goal is to have Colostrums reach the small intestine intact where it is absorber and colostrums contains factors that protect it from stomach acids. Research indicates that those seeking growth factor advantages (burning fat, increasing lean muscle, anti-aging) may benefit further from taking colostrums in loose powder form. It has been suggested that the growth factors in colostrums are actually enhanced by contact with saliva and digestive juices in the stomach. Taking colostrums in capsule form provides a quicker route to the intestinal tract, where colostrums works best to help strengthen immunity. For best results, colostrums should be taken on an empty stomach, with plenty of water.

Since many of bovine colostrums components are not species-specific, it works effectively in humans

as well as other mammals. Raw bovine colostrums differs from processed colostrums because it contains immune factors from just one parent. Processed colostrums is beneficial because it is pooled from hundreds and sometimes thousands of cows that provide broad based immune factors. There are very few producers of colostrums in the world that have the ability to accomplish this. Colostrums is also available in liquid form in the market today and must be kept refrigerated after opening and used within 30 days. There is also an apprehension of Mad Cow Disease being transmitted through a cow's milk or colostrums. However, to be safe, it is best to choose colostrums from pasture fed cattle since BSE's are transmitted when an animal consumes feed that contains body parts from infected animals and it is suggested that you choose colostrums in vegetable capsules, for maximum safety. New Zealand is recognized throughout the world for their strict dairy standards. They are listed as a "lowest-risk" country for BSE's and their colostrums is certified to be free of BSE and scrapie. A small percentage of people may experience flu-like symptoms, or have a rash during the first two weeks of taking colostrums.

#### **VETERINARY USE:**

Bovine colostrums are not species specific and works wonderfully with cats, dogs and other mammals and is being extensively used in European countries. Older animals respond especially well when given colostrums. Feed your pet water along with the colostrums. Puppies and kittens that are not thriving respond within days to supplementation with bovine colostrums, fed four times per day, mixed with water. Palatability in the canine has been 100% and 90% in the feline.

#### **Product Availability & Presentation:**

"Pedimmune" from Merck available as 90 gm powder. Approx cost – Rs. 270/-.

New Life Colostrum from Dr. Reddy's chewable tablets

Also available as Chewable Colostrum Lozenges.

#### **References:**

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