

Nature's Super Immunity Food

In the last few years, bovine colostrum has emerged as one of nature's most important immune support foods. We review the historic role that colostrum plays in everyday immune health and show why **Immune Tree Natural Strength First-milking Colostrum is one of nature's super foods.**

More than 2,000 research papers have been published in the last two decades strongly supporting the role of colostrum in health promotion; yet, unfortunately for consumers, medical attention has focused largely on antibiotic research; colostrum, also known as immune milk, has been relegated to marginal status among altogether too many doctors. This is understandable when we recognize the strengths of antibiotics but deplorable when we approach the subject without bias and honestly, and recognize that colostrum is also a very powerful immune food. These thousands of scientific papers build upon thousands of years of traditional use of colostrum as a health-promoting food throughout Europe and in Ayurveda.

In particular, over the last half-century, hundreds of reports have been published in scientific journals on research into the immune applications of dairy colostrum. The following is a small selection to show the scope and success of this work. To demonstrate the powerful immune properties of colostrum, let's revisit some of the historic landmarks of colostrum research.

Colostrum: Laying the Groundwork

In 1950, physician and virologist Albert Sabin, who is renowned for his painstaking development of the oral polio vaccine, described isolating an anti-polio substance from cow's milk, then developing a vaccine from dairy colostrum. In 1962, Sabin and others reported on the anti-poliomyelitic activity of dairy colostrum.

A few years later, during the late 1960s, Herbert Struss, Ph.D., began working with the Borden Company of New York City. Struss held Food and Drug Administration Investigational New Drug authority for studying the use of a type of bovine colostrum, known as "specific serum protein cap-

sules." Using 10 strains of *streptococcus*, two strains of *staphylococcus* and one strain of *diplococcus* in properly prepared cows, these lyophilized (freeze dried) serum proteins derived from colostrum were prepared in 250 milligram (mg) capsules. They contained the gamma globulin fraction (protein in blood which helps resist disease) of the antibodies and enabled 70 percent of rheumatoid arthritis patients to overcome the disease or receive marked benefit, once again demonstrating a close relationship between an infectious microorganism and rheumatoid arthritis.

In the February 1969 issue of *Natural History*, C.E. Bruce reported that dairy colostrum contained up to 40 times the amount of immunoglobulin G than human breast milk. Known as IgG, this immunoglobulin is one of the body's most important immune protectors.

Moving Forward: Providing More Evidence of a Systemic Effect

An important discovery came to the forefront in the 1970s when it was shown that colostrum's powerful immunoglobulins and growth factors could be absorbed intact into systemic circulation. First, there was a report in *Biochemical Biophysics Acta* in which researchers discovered a special glycoprotein in cow colostrum with protease inhibiting activity. This glycoprotein was found to be extremely effective at protecting the immune and growth factors in colostrum from destruction by digestive acids and pancreatic enzymes in the adult human stomach. Many additional studies confirmed that colostrum contained powerful trypsin-inhibiting substances that shut down digestive enzymes that normally digest proteins such as immunoglobulins and growth factors, enabling these immune and growth factors to enter the body's systemic circulation.

By 1979 at the 89th annual meeting of the American Pediatric Society, researchers said they had demonstrated in a human clinical study that immune factors in dairy colostrum, when taken orally, are effective against disease-causing organisms in the intestinal tract. They concluded that, "ingesting dairy colostrum immunoglobulins may provide passive immuno-



protection against a host of gut-associated antigens." This study has been confirmed many times throughout the world and today colostrum is without doubt one of the most important immune-protective substances for the prevention of childhood infectious diseases.

In 1980, L.B. Khazenson and co-investigators completed another study on eleven human volunteers in which cow colostrum was taken orally. Samples of their digestive tract demonstrated that the immune factors from colostrum were once again clearly invulnerable to human digestive processes and that they were effective in providing immune protection. The researchers concluded that, "The preservation of the biological activity of IgG in the digestive secretions of adults receiving immune colostrum orally indicates the expediency of further studies in the field of passive enteral immunization for the prevention and treatment of acute intestinal diseases."

continued on next page

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Next came a study reported in *The Lancet* by Dr. G.P. Davidson and co-investigators at the Gastroenterology Unit, Adelaide Medical Centre for Women and Children, South Australia. They used a 10-day course of bovine colostrum to see if it would protect children aged three to fifteen months against rotavirus, the world's most common pediatric intestinal disease and cause of childhood diarrhea. **Nine of 65 control children not receiving the colostrum acquired rotavirus. None of 55 children receiving the colostrum did.**

By 1990, during the height of the AIDS epidemic, researchers were reporting on a trial of concentrated immunoglobulin prepared from dairy colostrum. They noted, "It is well tolerated and highly effective in the treatment of severe diarrhea, e.g. in AIDS patients."

Also in 1990, in a reported titled, "Cryptosporidiosis and Acute Leukemia," a three-year old, immune-deficient child suffering from acute cryptosporidia-related diarrhea was given dairy colostrum three times a day in milkshakes. Within two weeks the symptoms were alleviated and the patient tested negative for cryptosporidia. The researcher concluded that pooled colostrum from non-immunized cows provides an effective method for controlling symptoms in immune-deficient patients

In 1991, researchers from the Institute of General Physiology, University of Siena, Italy, identified many different kinds of messenger molecules in colostrum. Like the immunoglobulins, these cytokines are also probably able to pass through the stomach's harsh environment into systemic circulation. These messenger molecules bring renewed vitality to the human body's immune system, they said. "No one has ever doubted that maternal milk, in comparison to formula milk, has a far superior nutritional value. Colostrum has a well-acknowledged crucial value for the survival of the animal species that cannot receive immunoglobulins

through the placenta. Until recently the presence of cytokines in colostrum was unsuspected but it has been now clarified that normally there are at least four cytokines, namely interleukin 1 and 6, tumor necrosis factor and interferon gamma, that may exert an important immunostimulatory role..." These scientists added that a high concentration of cytokines in colostrum "may exert a useful adjuvant activity in aged or immunodeficient people." Thus, we see the first inklings of modern medicine's recognition that colostrum provides an antidote to some of the symptoms of aging.

Returning to protecting malnourished impoverished children worldwide, at the Center for Studies of Sensory Impairment, Aging and Metabolism, Guatemala City, Guatemala, researchers are also very interested in first-milking colostrum. "The growth, development and health conditions for children living under deprived conditions in developing countries are so adverse that immediate public health measures to reduce morbidity and improve nutrition are urgently needed," notes their report in

the August 2002 issue of the *European Journal of Clinical Nutrition*. "Preventing and shortening the course of diarrheal episodes, eliminating protozoal colonization, and balancing intestinal microflora would all contribute to these goals. Recent advances in food technology in industrial dairying allow for continuous availability of stabilized bovine colostrum concentrate, both natural and hyperimmunized against specific human pathogens. This is safe for the calves of the producers themselves, for laboratory animals, and generally for humans, with the caveat of the milk-allergic. Moreover, substantial amounts of orally ingested bovine colostrum concentrate survive their passage through the stomach to remain intact and active in the lower reaches of the bowel. Studies in animals, human volunteers and naturally infected humans have demonstrated a therapeutic efficacy of oral bovine colostrum with certain infections."

The Value of First-milking Colostrum

We always tell shoppers that the very first thing to do is to make sure

Why We Recommend Immune Tree Colostrum

We recommend that consumers purchase only first-milking colostrum. Here's what our research and third party laboratory analysis reveals...

As we have shown, colostrum is truly important to immune health, and immune health is important to vitality and longevity. Therefore, colostrum is, in our opinion, one of nature's super foods. We recommend it be consumed daily. But we are concerned about the quality of colostrum products today.

There are a number of reasons we recommend **Immune Tree Nano Strength First-milking Colostrum⁶**. Immune Tree is one of the few colostrum companies with its own dairy herds and manufacturing facility. **Healthy Living** reporters have visited their herds and facilities. Their expertise is unsurpassed. Unlike other colostrum products, **Immune Tree Nano Strength First-milking Colostrum⁶** products contain absolutely no binders or fillers. (Other companies with less colostrum expertise require small amounts of binders and fillers that are not required to be mentioned on product labels.) As a result of their expertise, Immune Tree capsules now fit twice as much colostrum powder in a single capsule than other brands. This makes taking colostrum easier and more economical, especially as we believe that maximum health benefits are to be obtained with generous consumption patterns.

Our recommendation to use **Immune Tree Nano Strength First-milking Colostrum⁶** is also based on third-party laboratory analyses that we have reviewed. Our third-party analysis was performed by Food Products Laboratory, Inc., the largest private food-testing laboratory in the Northwest. Also known as FPL, the laboratory uses methods certified by the U.S. Department of Agriculture and Environmental Protection Agency and participates in several verified "check sample" programs to ensure a high degree of accuracy. We wanted to be sure that Immune Tree was a truly natural colostrum and that it conformed to standards for a true first-milking product.

their product is true colostrum taken from the first milking. You see, true colostrum is taken during the first 6-8 hours following birth. In fact, Cornell University researchers not only confirm that true colostrum products must come within the first 6-8 hours—but such products can be easily identified scientifically. When products are taken after the first 6-8 hours, the lactose content rises dramatically and the fat content changes. You lose many all-important growth and immune factors.

Many colostrum powders today are taken up to 72 hours following birth of the calf. Another popular brand of colostrum, for example, is collected during the first 24 to 48 hours after the second calving. With this length of time in gathering the product, the consumer won't be buying a true first-milking colostrum, but, rather, what might be termed closer to "transitional milk." By the way, the issue of suckling is important from the viewpoint of animal welfare. In the United States, dairy calves do not suckle their mother's colostrum directly from the udder. American dairy farmers provide colostrum in a bottle because they believe this helps the calves to grow faster and avoid contact with

bacterial pathogens on the surface of the udder. All calves receive colostrum, but U.S. calves receive much more because they are bottle fed. Unfortunately, there is no legal definition to tell consumers which brands are true first-milking colostrum products. Nor does the government require labels to disclose whether your product is first-milking colostrum.

We encourage consumers to ask questions of the manufacturer supplying their colostrum. Ask your manufacturer the time frame from which their colostrum was taken. Was it 6-8 hours or less? ❖

Dosage—Adults and children 12 years of age and older can take 1/2 teaspoon or more of Immune Tree Nano Strength First-milking powdered colostrum twice daily on an empty stomach. Powdered colostrum can be consumed directly or as part of a smoothie (which is also a great way to put colostrum in your children's diet). If your child is not ready for powdered colostrum, Immune Tree Children's Colostrum Strawberry Chewables are a tasty alternative. Have your child chew one or two strawberry-flavored chewables twice daily.

Availability—Immune Tree colostrum is available at www.bulkcolostrum.com. Have Questions? Call Donna or Kathi at 541.485.7199 10:00 - 6:00 PM Pacific or E-mail us at excellenthings@pce.com.



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Lab-verified Components of Immune Tree Colostrum6

count ranging from 15 to 40 percent and, for the most part, these products are filtered or standardized. There are specific reasons for a high Ig content. But for most people, staying true to nature is more important. Immune Tree Nano Strength first-milking Colostrum6 is all "natural," meaning their colostrum has not been filtered, standardized or manipulated in any way. We think this far exceeds either filtering or standardizing because this is what Mother Nature intended.

TOTAL PROTEIN—Total protein should range from 40 to 60 percent and usually indicates the colostrum has been taken within the first 12 hours after birth, the optimal time for processing colostrum. If a colostrum product has been denatured, (portions removed), the total proteins will appear abnormally high (70 to 80 percent).

MOISTURE—Removal of the moisture in a low-heat process ensures a longer shelf life. With a moisture level below six percent, colostrum has a shelf life of several years. Many colostrum products have moisture levels above seven percent.

TOTAL IMMUNO GLOBULINS—Many widely marketed brands of colostrum have an immunoglobulin

Immune Tree First-Milking Colostrum

Total Immunoglobulins	23.11%
Total Protein	53.89%
Moisture	1.60%
Lactose	10.40%
Fat	21.70%
Ash	.08%

LACTOSE—Levels of lactose between eight and twenty-five percent are indicative of colostrum taken within the first 12 hours. Since lactose levels rise quickly after the birth of the calf, low levels of lactose usually indicate colostrum that has been taken soon after birth. Some marketers of colostrum remove the lactose to accommodate lactose intolerant individuals. However, this is typically not necessary if colostrum is collected early enough so that the lactose level is low. (Levels under 15 percent rarely affect intolerant individuals.)

FAT—When the fat levels in colostrum are 15 to 25 percent, the growth factor portion will also be high. One company is known for "defatting colostrum," which they claim helps to increase shelf life. But our research shows that the fat contains about 50 percent of the insulinlike growth factor-1 and other growth factors involved in healing, regeneration, blood sugar balance, anti-aging and other processes. Immune Tree First-milking Colostrum6 is never de-fatted, and, because of quality colostrum gathering practices, also enjoys a long shelf life.

ASH—This can be an indicator of scorching during the drying process and may indicate that excessive temperatures have been used during the drying process. Look for an ash content under one percent.