

# Laktoferrin with Colostrum

## Enhanced Colostrum\*

**Laktoferrin with Colostrum** contains purified lactoferrin in a base of colostrum, and is prepared with lysozyme.

Lactoferrin, a peptide glycoprotein that belongs to the transferrin family, plays a role in binding and transporting iron in the body, as well as immunomodulatory and antioxidant activities.\*

Colostrum is the fluid produced from the mammary glands of mammals during the first few days after birth, before the first milk is produced. Colostrum supplies nutrients, growth factors, and antibodies that start development of passive immunity in the breast-fed newborn.\*



#71950  
90 vegetarian capsules

### Key Features

- Supports iron binding and transport, and has antioxidant activity\*
- May help deprive undesirable gastrointestinal microbes from needed iron\*
- May enhance and modulate immune activities\*



800.545.9960  
info@allergyresearchgroup.com  
www.allergyresearchgroup.com



Many substances found in bovine colostrum have been shown to be similar or identical to those found in human and other mammalian colostrum.\* Bovine colostrum contains three to four times more protein than does regular cow's milk, and most of this protein is immunoglobulin-rich whey protein. Colostrum contains many components that support the immune system, including insulin-like growth factors IGF-1 and IGF-2, transforming growth factor beta (TGFbeta), epidermal growth factor (EGF), lactoferrin, alpha-lactalbumin, beta-lactoglobulin, immunoglobulins IgG, IgA, and IgM, nucleotides, gamma-interferon, orotic acid, enzymes, and vitamins.\* In addition, colostrum may contain colostrinin, also known as proline-rich polypeptide (PRP), another potential immunomodulator.\* The combination of specific and nonspecific immunomodulatory components may together enhance protection and microbial balance of the gastrointestinal tract.\*

Lactoferrin is a peptide glycoprotein found in small amounts in colostrum, in mammalian exocrine secretions, and in neutrophil granules during inflammation. Lactoferrin has important iron-binding, immunomodulatory, and antioxidant activities.\* Lactoferrin has a molecular weight of 80 kiloDaltons, and is somewhat resistant to the action of proteolytic enzymes in the gut, where the activity of supplemental lactoferrin first occurs.\* Lactoferrin binds strongly to iron, potentially depriving undesirable gut microbes from iron needed for their growth, and may also help inhibit these microbes from attaching to the intestinal wall.\* Lactoferrin also produces the bioactive peptide lactoferricin.\*

Receptors for lactoferrin are found in intestinal tissue, on some bacteria, and on immune system cells such as monocytes, lymphocytes and neutrophils. Lactoferrin is involved in the growth and differentiation of T lymphocytes, and the regulation of cytokines and lymphokines, such as tumor necrosis-alpha and interleukin-6.\* Because free iron can generate reactive oxygen species via the Fenton reaction, lactoferrin's iron-binding properties also make it a powerful antioxidant.\*

Lysozyme is an enzyme found in tears, saliva, egg whites and in the lysosomes of phagocytic cells. It can hydrolyze the 1,4-beta links between N-acetylmuramic acid and N-acetylglucosamine, thus cleaving an important polymer of the cell wall of many bacteria.\*

#### References:

Adamik B, Zimecki M, Wlasczyk A, et al. Arch Immunol Ther Exp (Warsz). 1998; 46:169-176.  
 Baveye S, Ellass E, Mazurier J, et al. Clin Chem Lab Med. 1999; 37:281-286.  
 Bitzan MM, Gold BD, Philpott DJ, et al. J Infect Dis. 1998; 177:955-961.  
 Brinkworth GD, Buckley JD. Eur J Nutr. Aug2003;42(4):228-32.  
 Britigan BE, Serody JS, Cohen MS. Adv Exp Med Biol. 1994; 357:143-156.  
 Francis GL, Upton FM, Ballard FJ, et al. Biochem J. Apr1988;251(1):95-103.  
 Gopal PK, Gill HS. Br J Nutr. Nov2000;84(Suppl 1):S69-74.  
 Grange PA, Marcelin AG, Calvez V, Chauvel C, Escande JP, Dupin N. J Invest Dermatol. 2005 Jun;124(6):1249-58.  
 Greenberg PD, Cello JP. J Acquir Immune Defic Syndr Hum Retrovirol. Dec1996;13(4):348-54.  
 Huppertz HI, Rutkowski S, Busch DH, et al. J Pediatr Gastroenterol Nutr. Oct1999;29(4):452-6.  
 Ikeda M, Nozak A, Sugiyama K, et al. Virus Res. 2000; 66:51-63.  
 Ishibashi Y, Takeda K, Tsukidate N, Miyazaki H, Ohira K, Dosaka-Akita H, Nishimura M. Hepatol Res. 2005 Jun 1.  
 Kaito M. Hepatol Res. 2005 Jun 17.  
 Korhonen H, Marnila P, Gill HS. Br J Nutr. Nov2000;84(Suppl 1):S135-46.  
 Leszek J, Inglot AD, Janusz M, et al. Arch Immunol Ther Exp. 1999;47(6):377-85.  
 Levay PF, Viljoen M. Haematologica. 1995; 80:252-267.  
 Lissner R, Thurmann PA, Merz G, Karch H. Int J Clin Pharmacol Ther. 1998; 36:239-245.  
 Lonnerdal B, Iyer S. Annu Rev Nutr. 1995; 15:93-110.  
 Marcotty C, Francken F, Van Beeumen J, et al. Growth Regul. Jun1991;1(2):56-61.  
 Merendino N, Prosperi S, Franci O, et al. J Nutr Immunol. 1996; 4:5-21.  
 Mero A, Miikkulainen H, Riski J, et al. J Appl Physiol. 1997; 83: 1144-1151.  
 Nord J, Ma P, DiJohn D, et al. AIDS. Jun1990;4(6):581-4.

Petschow BW, Talbott RD. J Pediatr Gastroenterol Nutr. 1994; 19:228-235.  
 Playford RJ, Floyd DN, Macdonald CE, et al. Gut. 1999; 44:653-658.  
 Playford RJ, MacDonald CE, Calnan DP, et al. Clin Sci. Jun2001;100(6):627-33.  
 Popik P, Bobula B, Janusz M, et al. Pharmacol Biochem Behav. 1999; 64:183-189.  
 Popik P, Galoch Z, Janusz M, et al. Behav Brain Res. Jan2001;118(2):201-8.  
 Sarker SA, Casswall TH, Mahalanabis D, et al. Pediatr Infect Dis J. Dec1998;17(12):1149-54.  
 Sherman MP, Petrak K. Med Hypotheses. 2005 Jun 9.  
 Stallmann HP, Faber C, Bronckers AL, de Bleeck-Hogervorst JM, Brouwer CP, Amerongen AV, Wuisman PI. Peptides. 2005 Jun 22.  
 Superti F, Pietrantonio A, Di Biase AM, Longhi C, Valenti P, Tinari A. Res Microbiol. 2005 Jun-Jul;156(5-6):728-37.  
 Swart PJ, Kuipers EM, Smit C, et al. Adv Exp Med Biol. 1998; 443:205-213.  
 Tacket CO, Binion SB, Bostwick E, et al. Am J Trop Med Hyg. 1992; 47:276-283.  
 Tacket CO, Losonsky G, Livio S, et al. J Infect Dis. 1999; 180:2056-2059.  
 Trumpler U, Straub PW, Rosenmund A. Eur J Clin Microbiol Infect Dis. 1989; 8:310-313.  
 van Hooijdonk AC, Kussendrager KD, Steijns JM. Br J Nutr. Nov2000;84(Suppl 1):S127-34.  
 Vidal K, van den Broek P, Lorget F, Donnet-Hughes A. Pediatr Res. Jun2004;55(6):1001-8.  
 Viejo-Diaz M, Andres MT, Fierro JF. Antimicrob Agents Chemother. 2005 Jul;49(7):2583-8.  
 Vorland LH, Ulvatne H, Andersen J, et al. Scand J Infect Dis. 1999; 31:179-184.  
 Vorland LH. APMIS. 1999; 107:971-981.  
 Waryn M, Fatimi A, Bostwick EF, et al. Gut. 1999; 44:212-217.  
 Xu RJ. Reprod Fertil Dev. 1996;8(1):35-48.  
 Zimecki M, Artym J. Postepy Hig Med Dosw (Online). 2005 Jun 30;59:309-23. Polish.  
 Zimecki M, Wlasczyk A, Cheneau P, et al. Arch Immunol Ther Exp (Warsz). 1998; 46:231-240.  
 Zullo A, De Francesco V, Scaccianoce G, Hassan C, Panarese A, Piglionica D, Panella C, Morini S, Ierardi E. Dig Liver Dis. 2005 Jul;37(7):496-500. Epub 2005 Apr 1.

#### Supplement Facts

Serving Size 4 Capsules  
 Servings Per Container 22

Amount Per Serving	% Daily Value*
Lactoferrin (Bovine) (milk)	400 mg †
Colostrum (Bovine) (milk)	1000 mg †
Lysozyme (Egg White)	20 mg †

† Daily Value not established.

\* Percent Daily Value are based on a 2,000 calorie diet

Other ingredients: Hydroxypropyl methylcellulose, L-leucine.

**Suggested Use:** As a dietary supplement, 1 to 4 capsules at night before bed, or as directed by a healthcare practitioner.

**Caution:** Do not use while pregnant or breast-feeding. Lactoferrin may be contraindicated by lymphocytic leukemia or pancreatitis. Individuals with autoimmune or allergic conditions should start with small doses and consult their healthcare practitioner.