# Laktoferrin



Item # 72840 90 Vegetarian Capsules Item # 72080 120 Vegetarian Capsules

## The Possible Benefits of Laktoferrin, a Food Supplement

- Plays a crucial role in iron binding and transport in the body
- May support various types of microbial-balancing activities, primarily in the gut
- May enhance and modulate immune activities
- Provides support for protective antioxidant activity

## **Description**

Laktoferrin contains lactoferrin, a peptide glycoprotein that belongs to the transferrin family, which is responsible for binding and transporting iron in the body. Small amounts are found in bovine colostrum ("mothers' first milk"). Additionally, lactoferrin occurs in mammalian exocrine secretions and is released from neutrophil granules during inflammation.

Lactoferrin plays roles in multiple biochemical functions. It is crucial to the uptake of iron in the intestinal mucosa of breast-fed infants, through its iron-binding activity. It plays a role in various types of microbial-balancing activities, primarily in the gut. Lactoferrin also has antioxidant and immunomodulatory activities.

The potential microbial-balancing activity of supplemental lactoferrin is likely primarily due to its ability to strongly bind iron, because many undesirable microbes depend on iron for their growth. Lactoferrin also may help inhibit these microbes from attaching to the intestinal wall. It also produces the bioactive peptide lactoferricin, which may enhance microbial-balancing effects.

It appears that most of the activity of lactoferrin supplementation occurs in the gut.

Lactoferrin has immuno-modulatory properties. Receptors for lactoferrin are found in intestinal tissue, on some bacteria, and on immune system cells such as monocytes, lymphocytes and neutrophils. Lactoferrin appears to promote the growth and differentiation of T lymphocytes, and help regulate 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 potentially make it a powerful antioxidant substance. This could also further enhance immunomodulation.

Lactoferrin has a molecular weight of 80 kiloDaltons, and is somewhat resistant to the action of proteolytic enzymes. Our lactoferrin is obtained from the milk of range-grazed cattle in the Netherlands, raised without the use of hormones, antibiotics and pesticides, with 95% purity and 77.5% to 80.5% iron-binding capacity.

Serving size: 3 Capsules

Servings per container: 30 (item # 72840), or 40 (item #72080)

### **Amount per serving:**

Lactoferrin 1050 mg

Other ingredients: Hydroxypropyl methylcellulose, cellulose, L-leucine..

**Suggested Use:** As a dietary supplement, 1 to 3 capsules at night before bed, or as directed by a

healthcare practitioner.

**Caution**: Lactoferrin may act as an immune stimulant. Research indicates elevated levels

> of lactoferrin are present in conditions of lymphocytic leukemia and pancreatitis, suggesting a potential, but undetermined contraindication. Individuals with autoimmune or allergic conditions should start with small

doses and consult their healthcare practitioner.

Do not use during pregnancy. The body's normal production of lactoferrin is drastically reduced during pregnancy, potentially indicating a lack of need

during that time.

#### References

Adamik B, Zimecki M, Wlaszczyk A, et al. Arch Immunol Ther Exp (Warcz). 1998; 46:169-176.

Baveye S, Elass E, Mazurier J, et al. Clin Chem Lab Med. 1999; 37:281-286.

Britigan BE, Serody JS, Cohen MS. Adv Exp Med Biol. 1994; 357:143-156.

Grange PA, Marcelin AG, Calvez V, Chauvel C, Escande JP, Dupin N. J Invest Dermatol. 2005 Jun;124(6):1249-58. 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.

Levay PF, Viljoen M. Haemtologica. 1995; 80:252-267. Lonnerdal B, Iyer S. Annu Rev Nutr. 1995; 15:93-110. Sherman MP, Petrak K. Med Hypotheses. 2005 Jun 9. Stallmann HP, Faber C, Bronckers AL, de Blieck-Hogervorst JM, Brouwer CP, Amerongen AV, Wuisman PI. Peptides. 2005 Jun 22.

Superti F, Pietrantoni 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.

Trumpler U, Straub PW, Rosenmund A. Eur J Clin Microbiol Infect Dis. 1989; 8:310-313.

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.

Zimecki M, Artym J. Postepy Hig Med Dosw (Online). 2005 Jun 30;59:309-23. Polish.

Zimecki M, Wlaszczyk A, Cheneau P, et al. Arch Immunol Ther Exp (Warcz). 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.

