

MEDICINAL INGREDIENTS	NON-MEDICINAL INGREDIENTS	ALLERGENS	SOURCE	USES	RECOMMENDED AMOUNT
SIDE EFFECTS	PRECAUTIONS	INTERACTIONS & CONTRADICTIONS		PHARMACEUTICAL COMMENTARY	

Lactase Enzyme

9000 FCC* Units - For Digestion of Dairy Products

NPN Class: Pending Nutraceutical

Ingredients (alphabetical)	Medicinal: Lactase Non-medicinal: Cellulose, magnesium stearate
Allergens	Corn, starch
Source	Microbial fermentation
Uses	Lactase is used to facilitate digestion of lactose sugar in those who are lactose intolerant.
Recommended Amount	Use 1–2 capsules immediately before consuming dairy products, or food with lactose sugar. For high lactose content, or for those severely intolerant, use 2 capsules. Do not use more than 2 capsules at a time. Persistent symptoms may indicate another problem and should be managed by a health care professional.
Adverse Side Effects	Lactase is endogenous to the human GI tract and should not present adverse effects.
Interactions	None
Precaution / Cautions	None
Contraindications	None

Pharmaceutical Commentary

The body is able to digest all of the nutrient groups, protein, fat, and sugar, facilitating their absorption into the blood and the subsequent nurturing of the body. Sugar digestion is usually quite straight forward presenting little trouble, except for lactose sugar found in milk and products made from milk. The lack of ability to digest lactose sugar is referred to as lactose intolerance, stemming from a lost ability to produce lactase enzyme (beta-galactosidase). Infants and young children universally produce lactase enzyme for digesting milk, since milk is to be an important food in the early stages of life. However, by 3 to 7 years old, many children lose their capacity to produce lactase enzyme. It is well known that a sizable number of North Americans are lactose intolerant. Specific races known to be lactose intolerant include those of African, Asian, Mediterranean, and North American Indian descent. On the other hand, lactose intolerance affects fewer than 20% of Northern and Western European adults. Interestingly, this ethnic pattern corresponds somewhat with the geographical establishment of viable dairy industries. The early forebears of Canada and the United States were of European descent, thus explaining how milk and the dairy industry became so prominent in North America.

When undigested lactose sugar cannot leave the gut through normal absorption, the stage is set for diarrhea, abdominal bloating, audible bowel sounds, flatulence, nausea, abdominal cramping, and an urgent need to defecate may occur. Sensitive children would be so disadvantaged by the continuous consumption of milk sugar that normal nutrient uptake and growth would be challenged by an accompanying diarrhea. While adults are no longer growing, those manifesting significant lactose intolerance could compromise their optimal nutritional status with persistent consumption of lactose sugar, calcium absorption itself could be compromised, more by reduced milk intake than by impaired absorption.^{1,2}

There is documented efficacy in using exogenous lactase enzyme with foods that contain lactose sugar.^{3,4,5} For the majority of lactase enzyme users, milk and the many products that incorporate milk, can be used without experiencing

* FCC Food Chemical Codex

Product Information continued

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lactose intolerance, or the symptoms are so mild as to no longer present a problem. If supplemented lactase enzyme does not provide meaningful improvements over symptoms, the intestinal problem may be more complicated than just lactose sugar intolerance, possibly involving food allergy. Ice cream and yogurt contain lactose, but cheese does not, yet cheese is known to present symptoms that are similar to those experienced with allergy to cheese. Some find that yogurt presents a lesser problem, or no problem at all. This probably relates to the fact that the better yogurts still contain live bacteria that produce lactase enzyme. Those suffering from lactose intolerance, may find added help webber naturals Acidophilus & Bifidus WN3203 or PROacidophilus Sustain WN3207, both supplying bacteria that produce lactase.

References

1. Horowitz, M., et al, Lactose and calcium absorption in postmenopausal osteoporosis, Arch Intern Med, 147(3):534-536,1987
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3. Lin, M.Y, et al, Comparative effects of exogenous lactase (beta-galactosidase) preparations on in vivo lactose digestion, Dig Dis Sci, 38(11): 2022-2027,1993
4. Lami, F., et al, Efficacy of addition of exogenous lactase to milk in adult lactase deficiency, Am J Gastroenterol, 83(10):1145-1149,1988
5. Sanders, S.W., et al, Effect of a single dose of lactase on symptoms and expired hydrogen after lactose challenge in lactoseintolerant subjects, Clin Phar, 11(6):533-538,1992