



## **Recent Study Indicates NutraFlora® Reduces Colitis**

*NutraFlora Protects Against Inflammation And Promotes Healing*

**GOLDEN, CO October 20, 2003**—NutraFlora short chain fructooligosaccharides significantly reduces the duration and severity of colitis according to a study recently completed by the Gut Function and Human Nutrition Unit of the National Institute for Agricultural Research in Nantes, France. This study also indicated that NutraFlora helped to diminish anorexic symptoms commonly associated with colitis.

According to The National Institutes of Health, Colitis is a disease affecting over 2 million people worldwide. This form of IBD, similar to Crohn's disease, causes inflammation and ulcers in the colon and can result in the malfunctioning of the immune system. Symptoms include severe diarrhea, painful abdominal cramping, and loss of appetite. Colitis can severely restrict the quality of life, but currently there is no known cure.

Numerous previous studies have also indicated that NutraFlora plays a positive role in reducing the affects of this disease. "This latest study adds to the growing body of science showing that NutraFlora is a viable solution in helping to reduce the symptoms of colitis," stated Linda Douglas, PhD, RD, Manager of Scientific Affairs for GTC.

Researchers believe that the benefits of NutraFlora in colitis patients stem from its ability to stimulate the growth of beneficial microflora (probiotics) that produce short chain fatty acids (SCFAs) in the colon. SCFA's are vital components for activating immunity.

"NutraFlora's unique glucose-terminated, short-chain structure leads to a rapid increase in the numbers of beneficial microflora and short chain fatty acids in the colon," stated Dr. Douglas. "NutraFlora is the only short-chain prebiotic fiber identical to the fibers found in nature. It is the most effective prebiotic on the market in terms of rapidly producing the health benefits demonstrated in this recent study with colitis patients."

When formulating for digestive health, NutraFlora provides a wealth of benefits, including increased mineral absorption, improved immune function, and overall digestive health.

### **About NutraFlora®**

NutraFlora is a natural prebiotic fiber that promotes intestinal health faster and more efficiently than any other product on the market today. At 95% pure scFOS, it is the most effective prebiotic available. As a result, it has the lowest inclusion rate and supports the widest variety of beneficial probiotic strains compared to any other fiber.

Because of its composition and positive technical attributes, such as low viscosity, limited Maillard reaction, and low inclusion rates, NutraFlora is a versatile ingredient that can undetectably add the benefits of a prebiotic fiber to milk, yogurt, powdered drinks, drink boxes, bottled water, shakes, cereal, baked goods, nutrition bars, ice cream, soup, jams and jellies, baby food and much more.

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Article Abstract

***Biochemical and Molecular Actions of Nutrients***  
**The Prebiotic Characteristics of Fructooligosaccharides Are Necessary for Reduction of TNBS-Induced Colitis in Rats**

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**ABSTRACT** Fructooligosaccharides (FOS) increase the growth of lactic acid bacteria (LAB) and promote butyrate and lactate production. Because of these properties, FOS may benefit intestinal inflammation. The purpose of this study was to investigate the effect of FOS on colitis in rats and determine which factors are involved. Groups of rats with intracolonic trinitrobenzene sulfonic acid (TNBS)-induced colitis received intragastric infusions of 9 g/L NaCl, 1 g/d FOS or 10<sup>11</sup> colony-forming units (cfu)/d LAB (Experiment 1), or intracolonic infusions of 9 g/L NaCl, butyrate, lactate or butyrate + lactate with or without 10<sup>9.5</sup> cfu/d LAB (Experiment 2). Each infusion was administered twice daily for 14 d. Intragastric FOS reduced the gross score for inflammation ( $P < 0.001$ ), myeloperoxidase (MPO) activity ( $P < 0.001$ ) and pH ( $P < 0.001$ ), and increased lactate ( $P < 0.02$ ) and butyrate concentrations ( $P < 0.001$ ) as well as LAB counts in the cecum ( $P < 0.01$ ). Intragastric LAB (10<sup>11</sup> cfu/d) had the same beneficial effects as FOS and modified the cecal composition similarly. High doses of intracolonic butyrate and lactate reduced the indices of inflammation ( $P < 0.001$ ), whereas administration of the lower concentrations found in the colon tended to decrease ( $P < 0.1$ ) the gross score for inflammation and MPO activity. Addition of LAB (10<sup>9.5</sup> cfu/d) to the organic acids was necessary to reproduce the significant FOS-induced effects on these variables. Thus, under the experimental conditions used, FOS reduced intestinal inflammatory activity mainly by increasing LAB counts in the intestine. *J. Nutr.* 133: 21–27, 2003