

GO BEYOND BASIC NUTRITION

# Deliver proven-effective benefits with NUTRAFLORA® prebiotic fiber



  
**NutraFlora**  
PREBIOTIC SOLUBLE FIBER

HEALTH & NUTRITION™ 

Ingredient  
**idea labs**   
IDEAS TO SOLUTIONS

# About NUTRAFLORA® prebiotic fiber

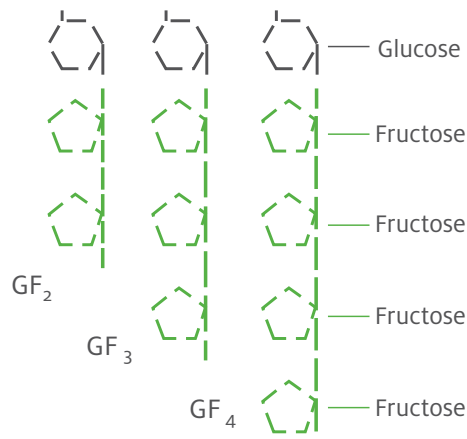
NUTRAFLORA prebiotic fiber is derived from pure sugar cane utilizing a bio-fermentation proprietary process and non-GMO ingredients. The result: the purest form of short-chain fructooligosaccharides (scFOS) available on the market.

Prebiotic fibers are non-digestible food ingredients that when consumed, provide a beneficial physiological effect on the host by selectively stimulating the favorable growth and/or activity of a limited number of beneficial indigenous bacteria found naturally in the body's intestines.

Consumer awareness is high around "good" bacteria (*bifidobacteria* and *lactobacilli* strains) and their health benefits. It is these two "good" bacterial strains that NUTRAFLORA prebiotic fiber acts upon by selectively stimulating their favorable growth and/or activity.

NUTRAFLORA prebiotic fiber consists of  $\beta$  2-1 linked linear chains of fructose bound to a terminal glucose. The chain length, or degree of polymerization (DP), varies from three to five. ScFOS is also found in a variety of fruits, vegetables and grains. However, to get one teaspoon (~3 grams) of scFOS, one would have to eat the equivalent of 15 onions, 22 bananas or 383 garlic cloves.

NUTRAFLORA prebiotic fiber has a consistent, simple molecular structure and 95% concentration to ensure maximum prebiotic efficacy.



## Health benefits and claims

Consumers want to take control of their health and address the health issues important to them, such as digestive, immune and bone health. NUTRAFLORA prebiotic fiber allows manufacturers to provide clearly differentiated health claims that are easy to understand by consumers and address their needs.

Because NUTRAFLORA is selectively utilized and preferentially fermented, it is the most effective prebiotic fiber. NUTRAFLORA prebiotic fiber offers scientifically proven means to support digestive and immune claims. These impressive health benefits are demonstrated by over twenty years of research and more than 200 scientific publications that validate its ability to improve human health in several key areas. These health benefits are easily obtained by including even very small quantities, providing a cost effective way to add consumer-friendly label claims.

These claims include:


- Gentle prebiotic
- Promotes digestive function
- Increases levels of good bacteria
- Supports immune health

Digestive and immune claims made with suggested NUTRAFLORA inclusion of a minimum of 1.1 g/day

	NUTRAFLORA® P-95 soluble prebiotic fiber	NUTRAFLORA® L95-S soluble prebiotic fiber
Fiber DP=3-5 (as is)	93.0%	68.0%
Moisture	3.0%	28.0%
Sugars (as is)	4.0%	4.0%
Appearance	White powder	Slightly yellow syrup
Flavor	Clean, slightly sweet	Clean, slightly sweet
Particle size	U.S. 40 mesh	
Calories	1.50 kcal/g	1.20 kcal/g
Dispersibility rate (10% sol.)	20 seconds	

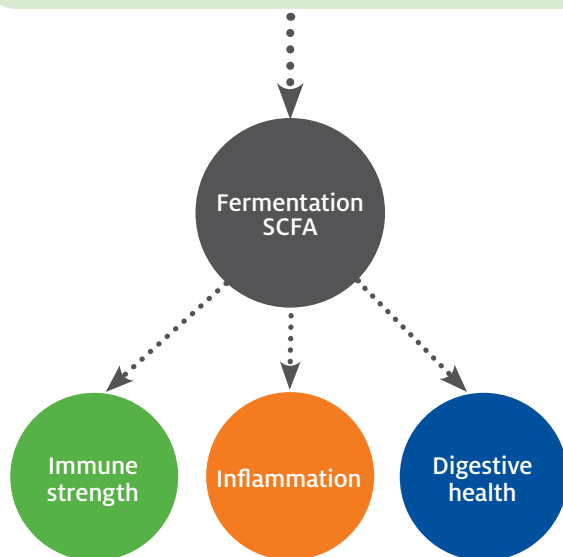
\*North and South America only

## Summary of clinical health effects



**Prebiotic:** *lactobacilli, bifidobacteria*

*Selectively stimulates the growth and/or activity of intestinal bacteria.  
Selective stimulation is associated with health and wellbeing.*



## Technical attributes and superior functionality

As an ingredient in food, NUTRAFLORA prebiotic fiber offers several processing, quality and regulatory advantages when compared to other prebiotic ingredients and fibers.

NUTRAFLORA prebiotic fiber is an invisible ingredient when added to foods and beverages. Since the raw material utilized to make NUTRAFLORA prebiotic fiber is sugar cane, it has a clean, slightly sweet, rounded flavor profile (about 30% as sweet as sugar) that leaves no aftertaste. NUTRAFLORA prebiotic fiber performs similarly to sugar (non-viscous highly soluble, clean, rounded sweetness) at typical inclusion levels allowing for partial sugar replacement. scFOS can also:

- Enhance flavors
- Provide fat-mimetic properties
- Round and extend the sweetness profile of high intensity sweeteners
- It does not cause the excessive viscosity or gelling common with other prebiotic fibers
- Suitable for use in low calorie products – 1.5 kcal/g
- Enhances the mouthfeel and creaminess of low fat and fat free dairy products

NUTRAFLORA prebiotic fiber is highly soluble and dispersible, ideal for liquid or dry formulations. It does not participate in the Maillard browning, provides freezing point control and acts as a humectant.

NUTRAFLORA prebiotic fiber is stable in most processing conditions at a wide range of temperatures and pH, making it ideal for an extensive array of foods and beverages. At above a pH of 4, the scFOS molecules are stable in food and beverage applications.

NUTRAFLORA prebiotic fiber can also be stable when processed at high temperatures and low pH (<4.0), depending on solids content, holding time, product shelf life and storage conditions. Examples of applications with these conditions include flash pasteurized juices, confectionery, fruit preparations and others.

NUTRAFLORA prebiotic fiber, a gentle, well tolerated prebiotic fiber, can be easily incorporated in many products including:

- Dietary supplements
- Bars (nutritional, granola)
- Dairy (fluid milk, yogurt, ice cream, frozen yogurt)
- Dairy-based beverages
- Functional drink beverages
- Non-dairy drinks (soy, almond, etc.)
- Snacks
- Confectionery
- Cold cereal
- Kids nutrition

NUTRAFLORA prebiotic fiber is produced under extremely stringent quality controls. These controls ensure that the product consumers receive is the same product that has undergone decades of clinical testing. Through a unique manufacturing process, the consistent molecular composition of scFOS is guaranteed from lot to lot. NUTRAFLORA prebiotic fiber is commercially produced in Ingredion's ISO 9002 certified facility. Its regulatory and quality features include:

- GRAS for the general population, including children under the age of one
- FCC (Food Chemical Codex) monograph for fructooligosaccharides, TP455.F66 2003
- On the USDA list of products suitable for organic applications
- Non-GMO
- Kosher-Halal
- BSE free
- Allergen free



## Rely on Ingredion for product success

Ingredion has the experience, the expertise and resources to develop appealing consumer products. Our work has taken us into virtually every facet of formulation and production in almost every application. What's more, we apply our marketing intelligence and consumer trend insights to develop innovative solutions that address emerging consumer demands.

Consumers are increasingly interested in better-for-you alternatives that incorporate scientifically proven nutritional ingredients. There is an ever present need for ingredient innovation to include new technologies and process improvements to positively affect product development and ultimately deliver better tasting, better-for-you food and beverage products to consumers.

Ingredion is at the top of our field in anticipating consumer needs and delivering solutions to our manufacturing partners. Our Ingredion Idea Labs® global innovation center in Bridgewater, NJ includes comprehensive capabilities that include sensory analysis, consumer focus groups, pilot plant, Texture Robotics Experimenter, a CULINOLOGY® center and more, all staffed by experts with broad and deep knowledge, who understand the unique needs of specific markets, applications and customers.

Look to us to partner with you to produce products that deliver on-trend products with the same tastes and textures consumers have come to expect from traditional offerings.

## Get started today

Ingredion is a leading global provider of ingredient solutions with a broad portfolio of specialty ingredients designed to improve the nutritional content of foods. Our unique ability to solve the nutritional benefit/eating quality/processing equation inspires food formulators to create innovative, healthy and appealing foods.

Ingredion's sales, technical and customer service professionals are available to answer your questions. Contact us today at [salesupport@ingredion.com](mailto:salesupport@ingredion.com), call or visit us online.

**Innovate with HEALTH & NUTRITION**  
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