



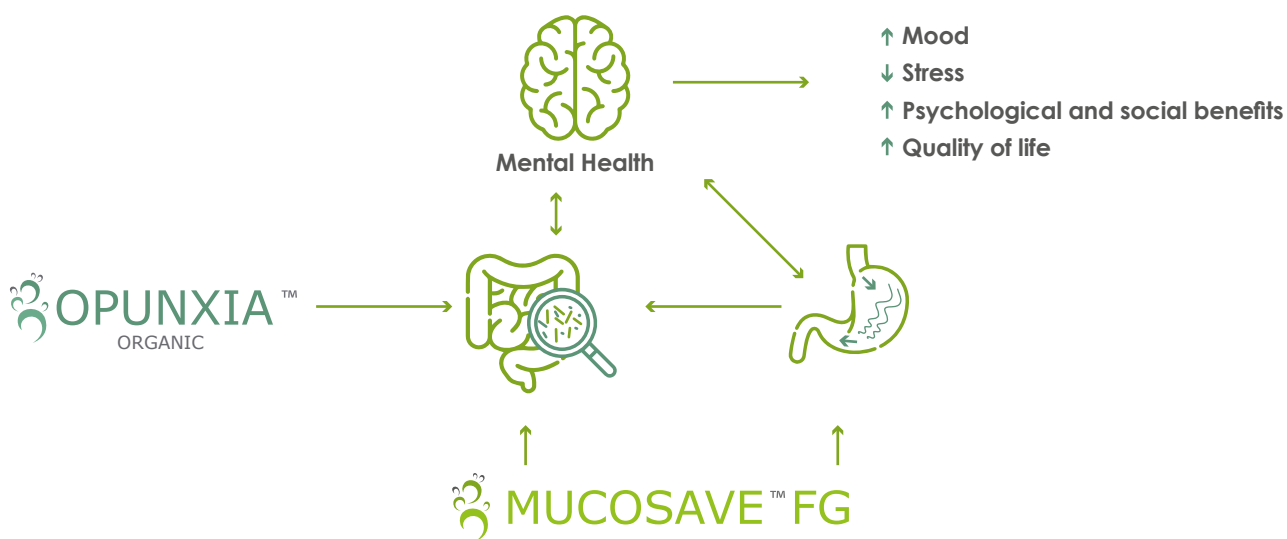
## HOW TO MANAGE DIGESTIVE & GUT HEALTH THROUGH NATURAL INGREDIENTS

# HOW TO MANAGE DIGESTIVE & GUT HEALTH THROUGH NATURAL INGREDIENTS

Gastrointestinal (GI) discomfort account for minor, everyday complaints as well as major health problems negatively affecting the general quality of life. Dietary measures and natural products are still the most commonly used remedies in cases of GI discomfort (GD) and digestive problems such as dyspepsia, abdominal pain, sense of fullness, nausea, heartburn, gastroesophageal reflux, sense of swelling, bowel movements, constipation, diarrhoea, irritable bowel syndrome and eructation. The symptoms related to GD can have a large impact on the quality of life and the gut health

is gaining more interest nowadays for a variety of reasons including the well-established link between the body and mind via the brain-gut axis. Because of this connection, GD is usually accompanied by psychosocial factors such as stress and mood disorders. GD is very common and affects 40% of the adult population worldwide.

**Natural ingredients represent an interesting option for the management of GD.**



**RELIEF FROM GASTROINTESTINAL DISCOMFORT**



## POLYSACCHARIDES AND POLYPHENOLS FOR OUR DIGESTION

The Mediterranean and Sicilian traditional phytotherapy includes many solutions for GD and, in particular, **the plant's cladodes of *Opuntia ficus-indica* due to the high content of polysaccharides and the leaves of *Olea europaea* L. (Olive tree) rich in polyphenols.**

The polysaccharide fraction obtained from *Opuntia ficus-indica* cladodes juice is the main component of **OPUNXIA™**, a branded ingredient standardized to contain 40-60% of highly characterized polysaccharides

The combination between *Opuntia ficus-indica* cladodes polysaccharides and the polyphenolic fraction of *Olea europaea* L. (Olive tree) leaves is a synergic blend behind **MUCOSAVE™ FG**, a branded ingredient standardized to contain 18-28% of highly characterized polysaccharides and 3.7- 4.3 % of total polyphenols expressed as luteolin 7-O-glucoside.

COMPOSITION	OPUNXIA™ % (W/W)
Total Polysaccharides (glucose)	40.0 - 60.0

**SUGGESTED DOSAGE: 200-300MG/DAY**

COMPOSITION	MUCOSAVE™ FG % (W/W)
Total Polyphenols (luteolin 7-O-glucoside)	3.7 - 4.3
Total Polysaccharides (glucose)	18 - 28

**SUGGESTED DOSAGE: 400MG/DAY**

# WHY OPUNXIA™?

The **OPUNXIA™** extract activity is strictly related to its content in polysaccharides which are able to soothe a disturbed digestive tract. This anti-inflammatory effect is probably more than just mechanical, although the protective benefits of a layer of polysaccharides on the digestive mucosa are obvious,

especially as an extra barrier to gastric acid. Opuntia cladode mucilages are in fact able to form a protective barrier and to promote mucus production and wound-healing processes in mucosal lesions.

## OPUNTIA CLADODE JUICE<sup>1</sup> (Opuntia mucilage)

Ultrafiltration Process

### OPUNTIA LOW MOLECULAR WIGHT

- Lactic Acid (35%)
- D-mannitol (30%)
- Aromatic Compounds (35%), like Piscidic, Eucomic and 2-hydroxy-4-(4'-hydroxypnenyl)-butanoic Acid

### OPUNTIA HIGH MOLECULAR WIGHT

- Starch-like constituent (40%)
- DPolusaccharides (60%), Linear galactose polymer and highly branched xyloarabinar

Moreover, mucilages have specific physiochemical properties (such as viscosity and gel-forming activity) that are effective at lowering blood cholesterol and help to retain glucose in the gut and reduce blood insulin levels after eating. Probably the main effect in this case is the delayed gastric emptying. Once they arrived in the gut, they can at least be partially decomposed by bowel flora into beneficial metabolites such as short-chain fatty acids (SCFA). These molecules would provide a source of readily absorbed and assimilated nou-

ishment. Some clinical and experimental studies support the concept that these mucilages can act as prebiotics, especially after their partial processing by the upper gastrointestinal tract. One in vitro study suggested that OPUNXIA™ has bifidogenic activity and it is metabolized by Bifidobacteria producing SCFA.

In conclusion **OPUNXIA™** acts on gastrointestinal mucosal health and supports the regulation of postprandial blood glucose level.



## ORGANIC INGREDIENT FOR PEOPLE AND PLANET WELLNESS

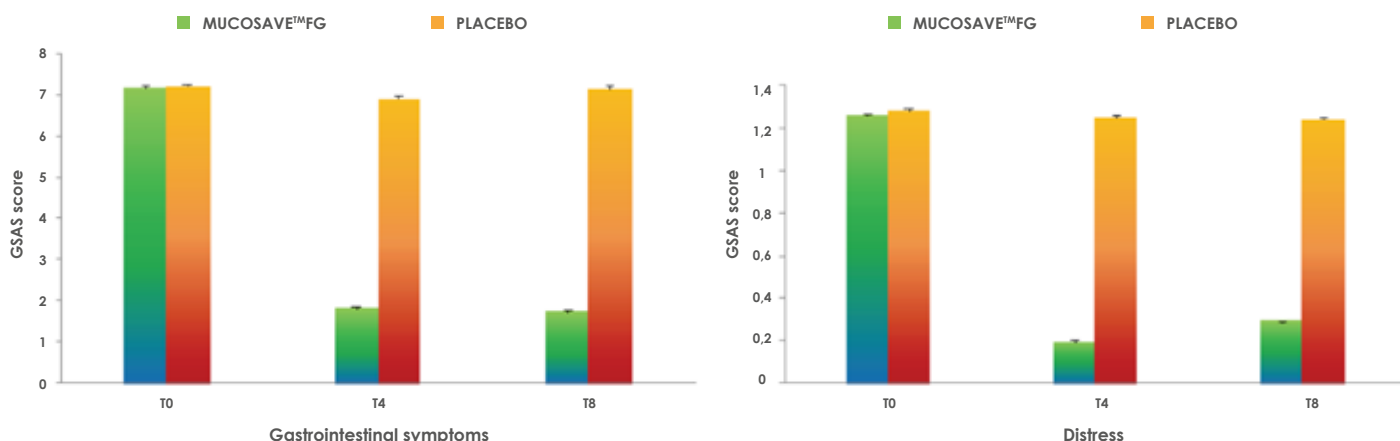




**MUCOSAVE™ FG** is the unique combination specifically created for mucosal support and to counteract the main symptoms caused by GD. The first clinical study reported the efficacy and the safety of gastroesophageal reflux disease (GERD) treatment as a medical device. The last clinical trial supported the oral use as food supplement of **MUCOSAVE™ FG** as anti-ulcerogenic and with gastroprotective properties. The randomized double-blind placebo-controlled clinical trial results suggested that **MUCOSAVE™ FG** supplementation counteracts GERD symptoms and has a positive impact on

the quality of life of people suffering of GD. The effects of *O. ficus-indica* cladodes and *O. europaea* leaves combined extract are evident just from the first days of administration, decreasing frequency and intensity of main symptoms of GD and GERD. Moreover, after 4 weeks of treatment, participants reported a definite improvement in the following symptoms: abdominal pain, sense of fullness, sense of swelling, flatulence, eructation, bowel sounds, bowel movement, reflux, constipation, nausea, and heartburn.

## GSAS RESULT



## 70% OF REDUCTION OF SYMPTOMS RELATED TO GASTROINTESTINAL DISCOMFORT

Significant amelioration of common GERD symptoms was also observed, especially for pressure in the chest, food back in the mouth and gurgling. To monitor the effect of the supplementation over time, participants completed a daily diary. Interestingly, after only two days, participants experienced the benefits of the supplementation, with an improvement of wellbeing that reached its maximum score after 1 week of supplementation. A third clinical trial was conducted, even if the results were not published yet and the results confirmed the *in vitro* results of prebiotic activity of **MUCOSAVE™ FG**, in fact the supplementation was able to modulate the faecal microbiota in subjects by reducing the microbial groups associated with inflammation and increasing those involved in the equilibrium of the ecosystem.



**COUNTERACT**  
GASTROESOPHAGEAL  
REFLUX



**PROTECTION AND SUPPORT**  
OF THE GASTROINTESTINAL  
MUCOSAL HEALTH



**IMPROVE**  
DIGESTIVE FUNCTION



**PREBIOTIC**  
ACTIVITY

## BIBLIOGRAFIA

1. Alecci U, Bonina F, Bonina A, Rizza L, Infrerra S, Mannucci C, Calapai G. Efficacy and Safety of a Natural Remedy for the Treatment of Gastroesophageal Reflux: A Double-Blinded Randomized-Controlled Study. *Evid Based Complement Alternat Med.* 2016;2016:2581461.
2. Malfa GA, Di Giacomo C, Cardia L, Sorbara EE, Mannucci C, Calapai G. A standardized extract of *Opuntia ficus-indica* (L.) Mill and *Olea europaea* L. improves gastrointestinal discomfort: A double-blinded randomized-controlled study. *Phytother Res.* 2021 Jul;35(7):3756-3768.
4. Mills S., & Bone K. (2013). Principles and practice of phytotherapy: Modern herbal medicine (second edition). Edinburgh: Churchill Livingstone.

# SUSTAINABLE INGREDIENTS FOR SUSTAINABLE MARKETS

## VERTICALLY INTEGRATED SYSTEM AND ZERO WASTE PROCESS

### **UPCYCLED INGREDIENT**

