MUCOSAGEN

ORTHO MOLECULAR PRODUCTS®
Because Efficacy Matters®

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CLINICAL APPLICATIONS

- *Supports GI Barrier Health*
- *Boosts Liver Function and Detoxification Pathways*
- *Promotes Inflammatory Balance and Mucin Production in the G.I. tract*

GASTROINTESTINAL SUPPORT

Mucosagen is a comprehensive formula designed to help support barrier function of the gastrointestinal GI lining. The mucosal epithelium serves multiple purposes including allowing nutrients from the diet to be absorbed and digested while simultaneously serving as a barrier that protects against unwanted food particles, toxins and microorganisms from passing directly into the body. Mucosagen includes a synergistic blend of ingredients that support the health of the GI lining while promoting inflammatory balance and liver detoxification pathways to support overall health.

Overview

Under healthy conditions, the GI tract contains a semi-permeable epithelial mucosal barrier which protects against the unwanted passage of food antigens, toxins, and microorganisms from crossing directly into the bloodstream. Several factors can affect the integrity of the epithelial barrier including medications (particularly NSAIDs) non-steroidal anti-inflammatory drugs), stress, alcohol intake, injury, trauma, microbial imbalance and poor nutrition. Reducing the impact of these factors and preserving a healthy GI tract is critical for maintaining long term health.

In order to protect the mucosal barrier, a thick, complex layer of mucus is produced. From the stomach and throughout the intestines, the mucosa consists of a single layer of epithelial cells covered by a layer of secreted mucus. Like saliva, mucus is a complex fluid that is rich in mucin glycoproteins . Mucin shields epithelial tissue from mechanical and chemical stress. Mucin also provides a broad range of immune support which helps maintain microbial balance. Mucosagen includes L-glutamine, gamma oryzanol, N-acetyl glucosamine and lactoferrin to help support the health of the intestinal mucosal barrier and maintain healthy mucin production. Mucosagen also includes the additional benefit of N-acetyl cysteine and milk thistle to promote detoxification of harmful chemicals.

L-Glutamine†

L-glutamine is an amino acid which serves as a primary source of fuel for the small intestines. Epithelial cells in the small intestines (enterocytes) use L-glutamine as their metabolic fuel which helps maintain mucosal growth, structure, and function.[1] Under times of stress, L-glutamine has been shown to become a conditionally essential amino acid, helping to regenerate and maintain a healthy mucosal barrier.[2] An increase in intestinal permeability can result in increased exposure to food, toxins and microorganisms. Inflammatory signals that are released during this exposure can trigger the stress hormone cortisol to increase the breakdown and utilization of L-glutamine in the small intestines.[3] L-glutamine provides the primary fuel source for the gut mucosal lining to maintain the health of gut tissue.[3]

Gamma Oryzanol†

Gamma oryzanol is a natural component of rice bran oil. It is a mixture of ferulic acid esters of sterol and triterpene alcohols. Rice bran oil includes about 1-2% gamma oryzanol, which it functions as a highly effective antioxidant in the GI tract. Gamma oryzanol has been shown to protect gastric mucosa from free radical stress and promote inflammatory balance by inhibiting NFkB in macrophages.[4,5]

N-Acetyl-Glucosamine†

N-acetyl glucosamine is the acetylated form of glucosamine. N-acetyl glucosamine is a mucin precursor and has been shown to increase the production of mucus within the GI tract.[6] Colonic mucus production has been shown to be deficient

in individuals with GI challenges. Research has indicated that the step involving N-acetylation of glucosamine is deficient in patients with intestinal challenges.[7-8] This can result in a decrease of glycoproteins that protect the intestinal mucosa.[8]

Lactoferrin†

Lactoferrin is a glycoprotein that is naturally found in colostrum, a milky fluid produced by the mammary glands. Lactoferrin plays a major role in supporting immune health including both innate and adaptive immune functions. Lactoferrin helps support microbial and inflammatory balance.[9] In animal studies, orally administered lactoferrin supported the health of the GI tract in mice, and provided protection against NSAID activity.[10] Research has also indicated that lactoferrin can help support inflammatory balance in the gut by inhibiting TNFα and promoting cytokine IL-8.[10]

Silymarin (Milk Thistle Seed Extract) †

Milk thistle *(Silybum marianum)* is an annual plant indigenous to Europe and the United States and has been used for centuries as an herbal medicine to support liver health. The extract of milk thistle has silymarin, the biologically active component found in the seeds and leaves of this plant. Silymarin provides liver-protective effects via several mechanisms of action, including inhibiting lipid peroxidation;[11] supporting liver detoxification through enhancement of the liver's glucuronidation pathways;[12] and protection against glutathione depletion.[13] Silymarin has been shown to increase hepatocyte protein synthesis resulting in hepatic tissue function.[14]

N-acetyl Cysteine†

N-acetyl cysteine (NAC) is a sulfyhydryl containing amino acid that is commonly used to support liver and gut health. NAC is an effective precursor to the major antioxidant in the body, glutathione. Oral supplementation with NAC has been shown to increase intracellular glutathione levels.[15] NAC also stimulates a specific detoxification pathway in the liver called glutathione conjugation.[16]

Micronutrient Blend†

Mucosagen includes the synergistic nutrient combination of zinc, vitamin A, and biotin, which are crucial form maintaining GI health. Zinc is an essential mineral that is widely recognized for its role in gut and immune health. Zinc has been shown to strengthen GI barrier function by supporting the structure of tight junctions.[16] Vitamin A is crucial for supporting GI integrity, promoting inflammatory balance by reducing NFkB, and supporting mucus production.[17] Biotin is an essential nutrient that is produced by several species of intestinal bacteria. Biotin deficiency is often present in individuals with GI challenges.[18]

Directions

2 capsules three times per day or as recommended by your health care professional.

Does Not Contain

Gluten, corn, yeast, artificial colors and flavors.

Cautions

If you are pregnant or nursing, consult your physician before taking this product.

Supplement Facts V2

Serving Size 2 Capsules
Servings Per Container 45 & 90

2 capsules contain	Amount Per Serving	% Daily Value
Vitamin A(as Palmitate)	2,000 IU	40%
Biotin	250 mcg	83%
Zinc (as TRAACS® Zinc Bisglycinate Chelate)	5 mg	33%
L-Glutamine USP	750 mg	*
N-Acetyl-L-Cysteine USP	150 mg	*
Gamma Oryzanol	100 mg	*
N-Acetyl-D-Glucosamine	100 mg	*
Milk Thistle Seed Extract (Standardized to contain 80% Silymarin)	60 mg	*
Lactoferrin (as Bioferrin®)	25 mg	*

* Daily Value not established

ID# 547090 90 Capsules
ID# 547180 180 Capsules

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