

# Hydro-Zyme™ & HCl-Plus™

## Nutritional Support for Digestion

The stomach produces a variety of substances that promote digestion and assimilation. Gastric juice contains hydrochloric acid and pepsinogens, precursors of the family of proteolytic enzymes called pepsins. Parietal cells produce both stomach acid and intrinsic factor, a protein required to bind vitamin B<sub>12</sub>, prior to its absorption by the small intestine. The secretion of H<sup>+</sup> by parietal cells requires an ATPase (H<sup>+</sup>, K<sup>+</sup>) to pump H<sup>+</sup> out of the cell. Chloride ion is exported separately, so that the resulting product is HCl. The pump is activated by histamine stimulation of a cell surface receptor involving cyclic AMP. Drugs such as Omeprazole act by inhibiting this enzyme.

Hydrochloric acid is a strong mineral acid which functions to maintain gastric pH between 1.5 to 2.5. Acidity serves three important roles; low pH kills microorganisms in food, it activates pepsinogen, and it unfolds (denatures) proteins, making them more accessible to proteolytic degradation. The gastric lining is protected from the strong acidic environment by a thick layer of mucus.

The incidence of low stomach acid (hypochlorhydria) increases with age. Atrophic gastritis occurs in 20% to 30% of healthy, elderly, individuals, and is the most common cause of reduced gastric acid production<sup>(1)</sup>. An estimated 30-50% of people over the age of 60 are believed to produce inadequate stomach acid,<sup>(2)</sup> although, only 16% hyposecretors in healthy elderly people has been reported<sup>(3)</sup>. In extreme cases, the stomach does not produce acid (achlorhydria) and gastric pH approaches neutrality. Other causes of low gastric acid production include malnutrition and excessive use of antacids and H<sub>2</sub> receptor antagonists.

Inadequate stomach acid is linked to maldigestion. This can promote inadequate mineral uptake, due to malabsorption of iron, calcium, zinc and others,<sup>(2)</sup> and increased risk of intestinal infections due to *Candida albicans* and parasites<sup>(1,4)</sup>. In diabetics, the prevalence of achlorhydria, together with related anemia due to vitamin B<sub>12</sub> malabsorption, has been estimated to range from 12 to 41%<sup>(5)</sup>. Achlorhydria and hypochlorhydria have been linked to peptic ulcer disease and to *Helicobacter pylori* overgrowth<sup>(6)</sup>. Hypochlorhydria can also cause an increased bacterial colonization of the small intestine. (In addition to gastric acid, other factors that limit bacterial colonization include normal bile flow and peristalsis.) It has also been suggested that gastric acid acts as an antitumor defense, and that achlorhydria predisposes patients to gastric cancer<sup>(7)</sup>.

### Nutrients that Support the Formation of Gastric Acid

**Betaine HCl and Glutamic Acid HCl.** Betaine is trimethylglycine, a normal metabolite and a methyl donor. In the protonated form, betaine HCl gives up a proton and chloride ion in aqueous solutions, that is, hydrochloric acid.

Therefore, betaine hydrochloride represents a dietary source of hydrochloric acid<sup>(2)</sup>. (When protonated with HCl, glutamic acid yields hydrochloric acid in aqueous solutions.) Like betaine HCl, glutamic acid HCl represents a supplemental form of gastric acid.

**Ammonium Chloride.** Gastric cells require chloride as the raw material for hydrochloric acid production. Excreted chloride ion is reabsorbed by the intestine after a meal, causing a temporary, postprandial rise in serum chloride levels. Chloride represents a major anion electrolyte required to maintain optimal pH, and to maintain osmotic balance in the body.

**Vitamin B<sub>6</sub>.** The absorption of pyridoxal phosphate is positively influenced by gastric acid secretion<sup>(8)</sup>. Vitamin B<sub>6</sub> deficiency is linked to deficiencies of trace minerals.

Pancreatin is a commercial preparation of porcine pancreas, highly enriched in pancreatic enzymes, including trypsin, chymotrypsin, carboxypeptidase, as well as amylase (starch digestion) and lipase (fat digestion). Porcine pancreatin contains these enzymes in a ratio similar to human pancreas, and the digestive enzymes of human and porcine pancreas possess similar properties. Pancreatic enzymes can be denatured by exposure to gastric acid, therefore, the pancreatin in **Hydro-Zyme™** is coated to preserve activity during transit through the gastrointestinal tract<sup>(9)</sup>.

A note on pancreatin activity measurement; measurement of proteolytic activity of pancreatin has been defined by the U.S. Pharmacopoeia, based upon the digestion of a standard protein, casein. Pancreatin 4X possesses 4 times the activity of pancreatin 1X (25 USP units of proteolytic activity per milligram). Therefore, 10 mg of pancreatin 4X per tablet of **Hydro-Zyme™** provides 1,000 USP units.

### Proteolytic Enzymes in Digestion

A wide assortment of proteolytic enzymes (proteases) is required to degrade proteins to amino acids and peptides. They are manufactured in cells as inactive precursors called zymogens, which must be activated after they have been released into the intestinal lumen. Ingested proteins first encounter proteolytic enzymes of the stomach. Pepsin refers to a closely related group of proteases produced by the gastric mucosa. The zymogen and pepsinogen, is activated both by HCl and by autocatalytic action. This enzyme exhibits maximal activity at low pH (high gastric acid). Upon leaving the stomach, chyme, (food particles mixed with gastric juice) is



Utilizing "The Best of Science and Nature" to Create Superior Nutritional Supplements



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neutralized in the intestine by bicarbonate secreted by the pancreas. (The presence of acidic chyme in the duodenum triggers pancreatic secretion.) Thus, hypochlorhydria may be associated with secondary pancreatic insufficiency. After neutralization, chyme is subjected to a battery of powerful pancreatic enzymes. The exocrine pancreas produces potent proteolytic enzyme peptidases, such as trypsin and alpha chymotrypsin, as their zymogens form, trypsinogen and chymotrypsinogen, respectively. Trypsin possesses a very high degree of peptide bond specificity in cleaving bonds adjacent to arginine and lysine. Chymotrypsin has a different substrate specificity; it cleaves peptide bonds adjacent to large, non-polar amino acids, such as aromatic amino acids and methionine. Other pancreatic proteases include elastase, which break down connective tissue. Activation of pancreatic zymogens begins in the intestine to prevent their premature activation, which could damage the pancreas. Trypsin activates most of the zymogens released into the intestine. Trypsin itself is first activated from trypsinogen by the enteric enzyme, enteropeptidase.

Pancreatic exopeptidases are represented by carboxypeptidases, which cleave amino acids from the carboxyl terminus of peptides. Carboxy-peptidases are derived from the zymogens, procarboxypeptidase A and B. Additional peptidases which serve to degrade peptides, are produced by the intestinal mucosa. For example, aminopeptidases cleave amino acids from the N terminus of peptides.

Pancreatic secretions contain a variety of other digestive enzymes, in addition to proteases. Amylase cleaves the 2 (1-4) glycoside linkages of amylose to yield maltose molecules. These di- and tri-saccharides are hydrolyzed to glucose at the intestinal brush border. Lipase hydrolyzes triglycerides to free fatty acids and monoglycerides, in the presence of a helper polypeptide called colipase, and bile salts, which serve to emulsify digested fats.

Betaine HCl and glutamic acid HCl supplements should not be chewed. They should be taken with meals. Such supplements may be inappropriate when there are ulcerative gastrointestinal conditions and when aspirin or other analgesics are being used.

#### References

1. Saltzman, JR *et al.* Bacterial overgrowth without clinical malabsorption in elderly hypochlorhydric subjects. *Gastroenterology* 1994; 106: 615-623.
2. Wright, Jonathan V., Dr. Wright's Guide to Healing with Nutrition. *Keats* 1990; pp 30-50.
3. Hurwitz, A *et al.* Gastric acidity in older adults. *JAMA* 1997; 278: 9-662.
4. Giannella, RN *et al.* Influence of gastric acidity on bacterial and parasitic infections. *Annals Int Med* 1973; 78: 271-276.
5. Rabinowitch IM. Achlorhydria and its clinical significance in diabetes. *Am J Dig Dis* 1949; 16: 322-333.
6. Berstad K, Berstad A. *Helicobacter pylori* infection in peptic ulcer disease. *Scand J Gastroenterol* 1993; 28: 561-567.
7. Seery JP. Achlorhydria and gastric carcinogenesis. *Lancet* 1991; 338: 1508-1509.
8. Middleton HM. Intestinal hydrolysis of pyridoxal 5-phosphate *in vitro* and *in vivo* in the rat.
9. Guarner, I *et al.* Fate of oral enzymes in pancreatic insufficiency. *Gut* 1993; 34: 708-712.

To place your order for **Hydro-Zyme™** and **HCl-Plus™** or for additional information please contact us below.

**Hydro-Zyme™** is available in 90-count (#1262) and 250-count (#1263) bottles.

### Supplement Facts

Serving Size: 1 Tablet

	Amount Per Serving	% Daily Value
Vitamin B6 (as pyridoxine hydrochloride)	2 mg	100%
Betaine Hydrochloride	150 mg	*
Glutamic acid (as L-Glutamic acid hydrochloride)	50 mg	*
Ammonium Chloride	35 mg	*
Pancreatin 4X (porcine)	10 mg	*
Pepsin (1:10,000)	10 mg	*

\* Daily Value not established

**Other ingredients:** Vegetable culture †, cellulose, stearic acid (vegetable source), modified cellulose gum, silica and food glaze.

† Specially grown, biologically active vegetable culture (from organic *Pisum sativum*, *Lens esculenta* and/or *Cicer arietinum*) containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.

**This product is gluten and dairy free.**

**RECOMMENDATION:** One (1) tablet with each meal as a dietary supplement or as otherwise directed by a healthcare professional.

**KEEP OUT OF REACH OF CHILDREN**

Store in a cool, dry area.  
Sealed with an imprinted safety seal for your protection.

Product # 1262 Rev. 07/15

**HCl-Plus™** is available in 90-count (#1230) bottles.

### Supplement Facts

Serving Size: 1 Tablet

	Amount Per Serving	% Daily Value
Vitamin B6 (as pyridoxine hydrochloride)	2 mg	100%
Betaine (as betaine hydrochloride)	115 mg	*
Glutamic Acid (as L-Glutamic acid hydrochloride)	50 mg	*
Ammonium Chloride	35 mg	*
Pepsin (1:10,000)	10 mg	*

\* Daily Value not established

**Other ingredients:** Vegetable culture †, cellulose, stearic acid (vegetable source), modified cellulose gum, and silica.

† Specially grown, biologically active vegetable culture containing naturally associated and/or organically bound phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.

**This product is gluten and dairy free.**

**RECOMMENDATION:** One (1) tablet with each meal as a dietary supplement or as otherwise directed by a healthcare professional.

**KEEP OUT OF REACH OF CHILDREN**

Store in a cool, dry area.  
Sealed with an imprinted safety seal for your protection.

Product # 1230 Rev. 09/14



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# GI HEALTH



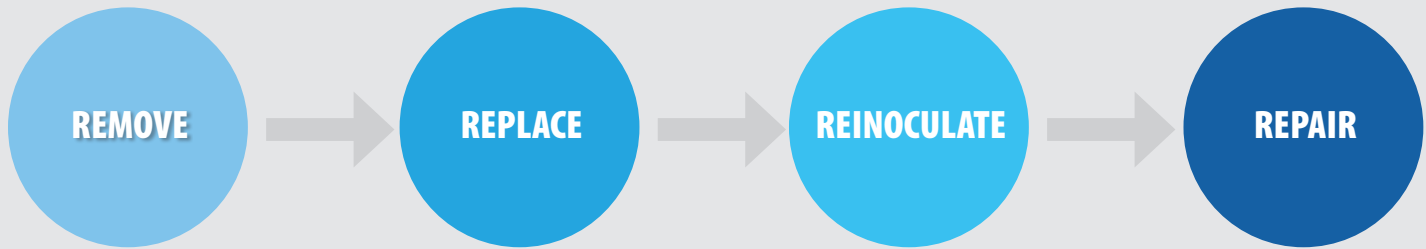
**BIOTICS<sup>®</sup>**  
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**SUPPLEMENTS TO SUPPORT GASTRO-INTESTINAL HEALTH**

# Address these stages of GI Health\*



\*These may not be in chronological order, depending on the specific GI issue.

## REMOVE

Overgrown yeast and bacteria that may (or may not) normally live in the GI tract are removed using specific gluten free nutritional supplements, including a proven-effective patented formula.



### A.D.P.<sup>®</sup>

**Product Number: 1101 (60T) or 1104 (120T)**

A.D.P.<sup>®</sup> is a proven-effective\* patented formula. Utilizing micro-emulsification and delayed release technologies, A.D.P.<sup>®</sup> delivers standardized oil of oregano throughout the digestive tract, where it functions to impact undesirable intestinal organisms.

\*Phytother Res 2000 May

**Active Ingredients:**

Oregano (*Origanum vulgare*) (standardized extract)



#### Supplement Facts

Serving Size: 1 Tablet

	Amount Per Serving
Oregano Oil ( <i>Origanum vulgare</i> ) (extract from leaf)	50 mg*

\* Daily Value not established

**Other ingredients:** Cellulose, modified cellulose gum, potassium sorbate, stearic acid (vegetable source), silica, water and gum arabic.

A.D.P.<sup>®</sup> supplies oregano oil which is emulsified and processed in a sustained release form for optimal effectiveness. This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Patent #5,955,086

This product is gluten, dairy and GMO free.



### BiomeBalance

**Product Number: 7856 (120C)**

BiomeBalance supplies a proprietary blend of herbs and herbal extracts to support normal gut health. Select herbs are recognized in promoting the synergistic healing of damaged intestinal tissue, resulting predominately from dysbiosis\*. The combination of Eastern and Western herbs in this formula provides a broad anti-dysbiotic effect, even with low dosing.

\*Glob Adv Health Med. 2014 May

**Active Ingredients:**

Proprietary Blend including Dill (*Anethum graveolens*) (seed), *Stemona* (*Stemona sessilifolia*) (root) (powder and extract), Wormwood (*Artemisia absinthium*) (shoot & leaf) (extract), Java Brucea (*Brucea javanica*) (fruit) (powder & extract), Chinese Pulsatilla (*Pulsatilla chinensis*) (rhizome) (powder & extract), Jamaica Quassia (*Picrasma excelsa*) (bark) (extract), Cutch Tree (*Acacia catechu*) (heartwood & bark) (powder & extract), Hedyotis (*Hedyotis diffusa*) (aerial part) (powder & extract), Yarrow (*Achillea millefolium*) (leaf & flower) (extract).



#### Supplement Facts

Serving Size: 2 Capsules  
Servings Per Container: 60

	Amount Per Serving
Proprietary Blend	950 mg
Dill ( <i>Anethum graveolens</i> ) (seed) *	
<i>Stemona</i> ( <i>Stemona sessilifolia</i> ) (root) (powder and extract) *	
Wormwood ( <i>Artemisia absinthium</i> ) (shoot & leaf) (extract) *	
Java Brucea ( <i>Brucea javanica</i> ) (fruit) (powder & extract) *	
Chinese Pulsatilla ( <i>Pulsatilla chinensis</i> ) (rhizome) (powder & extract) *	
Jamaica Quassia ( <i>Picrasma excelsa</i> ) (bark) (extract) *	
Cutch Tree ( <i>Acacia catechu</i> ) (heartwood & bark) (powder & extract) *	
Hedyotis ( <i>Hedyotis diffusa</i> ) (aerial part) (powder & extract) *	
Yarrow ( <i>Achillea millefolium</i> ) (leaf & flower) (extract) *	

\* Daily Value not established

**Other ingredients:** Capsule shell (gelatin and water) and magnesium stearate (vegetable source).

This product is gluten and dairy free.

Research shows that gut health is critical to overall health and that an unhealthy gut contributes to a wide range of diseases, conditions, an impaired immune and nervous system, and even hormonal imbalance. Supporting gastrointestinal health and restoring the integrity of the gut barrier are essential to optimizing overall health.



## FC-Cidal™

**Product Number: 6310 (100C)**

**FC-Cidal** supplies a proprietary blend of herbs and herbal extracts, which function to support healthy GI function\*. Herbs, spices and botanical preparations often exhibit antimicrobial properties due to a wide array of terpenoid and polyphenolic compounds. Culinary herbs have long been used to control pests and food-borne yeasts and molds in the context of food safety.

\*Glob Adv Health Med. 2014 May

### Active Ingredients:

Proprietary Blend including French Tarragon (*Artemisia dracunculus*) (leaf), Indian Tinospora (*Tinospora cordifolia*) (stem & root), Horsetail (*Equisetum arvense*) (whole herb), Thyme (*Thymus vulgaris*) (leaf), Pau D' Arco (*Tabebuia impetiginosa*) (inner bark), Stinging Nettle Extract (*Urtica dioica*) (root), Olive (*Olea europaea*) (leaf).



### Supplement Facts

Serving Size: 1 Capsule

	Amount Per Serving
Proprietary Blend	500 mg
French Tarragon ( <i>Artemisia dracunculus</i> ) (leaf) *	
Indian Tinospora ( <i>Tinospora cordifolia</i> ) (stem & root) *	
Horsetail ( <i>Equisetum arvense</i> ) (whole herb) *	
Thyme ( <i>Thymus vulgaris</i> ) (leaf) *	
Pau D' Arco ( <i>Tabebuia impetiginosa</i> ) (inner bark) *	
Stinging Nettle Extract ( <i>Urtica dioica</i> ) (root) *	
Olive ( <i>Olea europaea</i> ) (leaf) *	

\* Daily Value not established

**Other ingredients:** Capsule shell (gelatin and water), cellulose and magnesium stearate (vegetable source).

**This product is gluten and dairy free.**

**Adjunct Products: Bio-HPF®, Berberine HCl, Caprin™, and Iodizyme-HP™**

## REPLACE

Bile salts, digestive enzymes, and hydrochloric acid levels are replaced using specific gluten free nutritional supplements in order to maintain and promote healthy digestion.



## Beta-TCP™

**Product Number: 1215 (90T) or 1216 (180T)**

**Beta-TCP™** supports both healthy bile flow, and the normal bile acid-to-cholesterol conversion. It contains both digestive and antioxidant enzymes, along with Taurine and organic beet concentrate.

### Active Ingredients:

Vitamin C (ascorbic acid), Taurine, Pancrelipase (porcine), Organic Beet Concentrate\*\* (Beta vulgaris) (whole), Superoxide Dismutase (raw organic vegetable culture†) and Catalase (raw organic vegetable culture†). †Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors. \*\* Whole beet concentrate from certified organically grown beets.



### Supplement Facts

Serving Size: 1 Tablet

	Amount Per Serving	% Daily Value
Vitamin C (ascorbic acid)	60 mg	100%
Taurine	100 mg	*
Pancrelipase (porcine)	50 mg	*
Organic Beet Concentrate** (Beta vulgaris) (whole)	100 mg	*
Superoxide Dismutase (from vegetable culture †)	20 mcg	*
Catalase (from vegetable culture †)	20 mcg	*

\* Daily Value not established

**Other ingredients:** Cellulose, stearic acid (vegetable source), magnesium stearate (vegetable source) and food glaze.

† Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.

\*\* Whole beet concentrate from certified organically grown beets.

**This product is gluten and dairy free.**

# REPLACE (continued)



## Beta Plus™

**Product Number: 1210 (90T) or 1209 (180T)**

**Beta Plus™** is a source of bile salts, digestive enzymes and organic beet concentrate, along with SOD and catalase. Consider this product whenever the gallbladder has been removed, or the need for supplemental bile salts is indicated.

### Active Ingredients:

Ox Bile Extract, Pancrelipase (porcine), Organic beet concentrate\*\* (Beta vulgaris) (whole), Superoxide dismutase (raw organic vegetable culture†), Catalase (raw organic vegetable culture†). †Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors. \*\* Whole beet concentrate from certified organically grown beets.



### Supplement Facts

Serving Size: 1 Tablet

	Amount Per Serving	% Daily Value
Ox Bile Extract	100 mg	*
Pancrelipase (porcine)	50 mg	*
Organic Beet Concentrate** (Beta vulgaris) (whole)	100 mg	*
Superoxide Dismutase (from vegetable culture †)	20 mcg	*
Catalase (from vegetable culture †)	20 mcg	*

\* Daily Value not established

Other ingredients: Cellulose, stearic acid (vegetable source), magnesium stearate (vegetable source) and food glaze.

† Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.

\*\* Whole beet concentrate from certified organically grown beets.

This product is gluten and dairy free.

**RECOMMENDATION:** One (1) tablet with each meal as a dietary supplement



## Hydro-Zyme™

**Product Number: 1262 (90T) or 1263 (250T)**

**Hydro-Zyme™** provides digestive support via supplemental Betaine hydrochloride, Pepsin, Pancreatin, along with other known synergists. It may be considered when the need for supplemental hydrochloric acid and/or Pancreatin are indicated.

### Active Ingredients:

Vitamin B6 (as pyridoxine hydrochloride), Betaine Hydrochloride, Glutamic acid (as L-Glutamic acid hydrochloride), Ammonium Chloride, Pancreatin 4X (porcine), Pepsin (1:10,000).



### Supplement Facts

Serving Size: 1 Tablet

	Amount Per Serving	% Daily Value
Vitamin B6 (as pyridoxine hydrochloride)	2 mg	100%
Betaine Hydrochloride	150 mg	*
Glutamic acid (as L-Glutamic acid hydrochloride)	50 mg	*
Ammonium Chloride	35 mg	*
Pancreatin 4X (porcine)	10 mg	*
Pepsin (1:10,000)	10 mg	*

\* Daily Value not established

Other ingredients: Vegetable culture †, cellulose, stearic acid (vegetable source), modified cellulose gum, silica and food glaze.

† Specially grown, biologically active vegetable culture (from organic Pisum sativum, Lens esculenta and/or Cicer arietinum) containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.

This product is gluten and dairy free.



## Intenzyme Forte™

**Product Number: 1207 (50T), 1201 (100T) or 1202 (500T)**

**Intenzyme Forte™** is a broad spectrum proteolytic enzyme formulation, containing pancreatin, bromelain, papain, lipase, amylase, trypsin and alpha chymotrypsin. It may be utilized to support numerous protein metabolism pathways. Proteolytic enzymes are capable of exerting influence over a wide variety of physiological and biochemical processes. The benefits of Intenzyme Forte include its effect on muscle soreness and discomfort due to overexertion, the support of hormone processing, as well as providing support for healthy digestive, immune and circulatory functions.

### Active Ingredients:

Pancreatin 4X (porcine), Bromelain (from pineapple), Papain (from papaya), Lipase (porcine), Amylase (porcine), Trypsin & Alpha Chymotrypsin (porcine), Superoxide Dismutase (from vegetable culture†), Catalase (from vegetable culture†) †Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.



### Supplement Facts

Serving Size: 1 Tablet

	Amount Per Serving	% Daily Value
Pancreatin 4X (porcine)	100 mg	*
Bromelain (from pineapple)	50 mg	*
Papain (from papaya)	50 mg	*
Lipase (porcine)	10 mg	*
Amylase (porcine)	10 mg	*
Trypsin & Alpha Chymotrypsin (porcine)	100 mg	*
Superoxide Dismutase (from vegetable culture †)	10 mcg	*
Catalase (from vegetable culture †)	10 mcg	*

\* Daily Value not established

Other ingredients: Stearic acid (vegetable source), cellulose, magnesium stearate (vegetable source) and food glaze.

† Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.

This product is gluten and dairy free.

**RECOMMENDATION:** One (1) tablet three (3) times each day as a dietary supplement or as otherwise directed by a healthcare professional.

# REINOCULATE

The restoration of optimal gut flora is done using a specific gluten free probiotic



## BioDoph-7 Plus®

**Product Number: 1285 (60C)**

Probiotics are classically defined as “a preparation of, or a product containing viable, defined microorganisms in sufficient numbers, which alter the microbiota (typically by colonization) in a compartment of the host, and by that, exert beneficial health effects in this host”.

**BioDoph-7 Plus®** supplies a blend of pro- and prebiotics, including Bifidobacterium bifidum, Bifidobacterium lactis, Bifidobacterium breve, Lactobacillus paracasei, Lactobacillus plantarum, Lactobacillus salivarius, and Streptococcus thermophilus, along with the prebiotics Inulin (from chicory root), Arabinogalactans (from Larch), and Marshmallow root (extract).

### Active Ingredients:

Proprietary Blend including Inulin (from Chicory root), Arabinogalactans (from Larch), Marshmallow (Althea officinalis) (extract) (root), Bifidobacterium bifidum, Bifidobacterium lactis, Bifidobacterium breve, Lactobacillus paracasei, Lactobacillus plantarum, Lactobacillus salivarius, Streptococcus thermophilus. Each capsule of BioDoph-7 Plus® contains more than 20 billion organisms at time of manufacture.



### Supplement Facts

Serving Size: 1 Capsule

	Amount Per Serving
<b>Proprietary Blend</b>	400 mg
Inulin (from Chicory root)*, Arabinogalactans (from Larch)*, Marshmallow (Althea officinalis) (extract) (root)*, Bifidobacterium bifidum*, Bifidobacterium lactis*, Bifidobacterium breve*, Lactobacillus paracasei*, Lactobacillus plantarum*, Lactobacillus salivarius*, Streptococcus thermophilus*	

\* Daily Value not established

**Other ingredients:** Vegetarian capsule shell (modified cellulose) and magnesium stearate (vegetable source).

Each capsule of **BioDoph-7 Plus®** contains more than 20 billion organisms at time of manufacture.

Contains an ultra-trace amount (0.3 ppm) of milk constituents which are used in the fermentation of probiotic ingredients.

**This product is gluten free.**



## BioDophilus-FOS®

**Product Number: 1205 (4oz)**

**BioDophilus-FOS™** is a pleasant tasting powder that supplies the probiotics Lactobacillus acidophilus (DDS-1 strain), and Bifidobacterium bifidum in a prebiotic base of fructooligosaccharides. Each 1/2 teaspoon supplies 3 billion organisms, along with 1,200 mg of beet-sourced Fructooligosaccharides.

### Active Ingredients:

Lactobacillus acidophilus (DDS-1) and Bifidobacterium bifidum organisms, and Fructooligosaccharides (beet source).

Refrigeration is recommended to preserve the organisms.



### Supplement Facts

Serving Size: ½ Teaspoon (approx. 1.5 g)

Servings Per Container: 75

	Amount Per Serving	% Daily Value
Calories	5	
Total Carbohydrate	1 g	0% †
Sugars	0 g	*
Lactobacillus acidophilus (DDS-1) and Bifidobacterium bifidum organisms	3 billion	*
Fructooligosaccharides (beet source)	1,200 mg	*

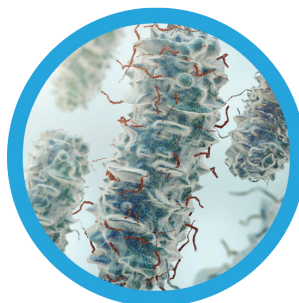
†Percent Daily Values based on a 2,000 calorie diet.

\* Daily Value not established

**Ingredients:** Fructooligosaccharides (beet source), Lactobacillus acidophilus (DDS-1) and Bifidobacterium bifidum.



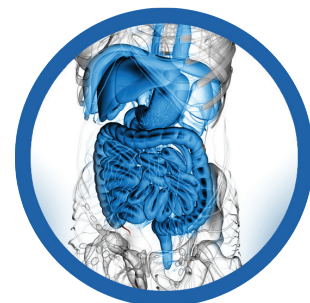
**REMOVE**



**REPLACE**



**REINOCULATE**



**REPAIR**

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# REPAIR

Specific gluten free nutritional supplements, including vitamins, minerals, amino acids, and EFAs, are essential to gut repair and healing the damaged intestinal lining.



## BioMega-1000

### Product Number: 1400 (100C)

BioMega-1000 supplies the highest quality, all-natural (not modified by distillation processes) fish oil, supplying EPA and DHA omega-3 fatty acids. BioMega-1000 fish oil surpasses all national and international standards for environmental pollutants, including dioxins, PCBs, pesticides and heavy metals. The most active and beneficial derivatives of marine derived  $\omega$ -3 fatty acids are eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), natural precursors that allow the body to make Specialized Pro-Resolving Mediators (SPMs), supporting healthy inflammatory responses. Both the brain and nervous system are higher in DHA, as compared to the rest of the body. As an omega-3 fatty acid, it has the ability to impact most physiological functions.

**Active Ingredients:** Vitamin E (as d-alpha tocopherol), Omega-3 fatty acids. Each softgel capsule of BioMega-1000 contains 1,000 mg of natural marine lipid concentrate, providing a natural source of Omega-3 fatty acids; EPA (Eicosapentaenoic acid) 180 mg and DHA (Docosahexaenoic acid) 120 mg.



### Supplement Facts

Serving Size: 1 Softgel Capsule

	Amount Per Serving	% Daily Value
Calories	15	
Calories from Fat	15	
Total Fat	1.5 g	2%*
Saturated Fat	<1 g	<3%*
Vitamin E (as mixed tocopherols)	4 mg	27%
Omega-3 fatty acids	1.14 g	†

\* Percent Daily Values based on a 2,000 calorie diet  
† Daily Value not established

**Other Ingredients:** Capsule shell (gelatin, glycerin and water).  
Contains ingredients derived from Anchovy and Sardine.  
This product is gluten and dairy free.



## Gastrazyme™

### Product Number: 1140 (90T)

Gastrazyme™ supplies specific nutrients including vitamin U complex, chlorophyllins and vitamin A, ingredients all known to support the health of GI tract, which may become stressed due to normal, everyday factors. Early studies have recognized the effectiveness of raw cabbage juice in normalizing gastric and intestinal function. Glutamine and methionine derivatives present in this juice are believed to be the active principles. Specific attention has focused on methionine S-methylsulfonium (MMS) in the chlorinated form. MMS occurs in a variety of fruits and vegetables, such as cabbage. Studies have demonstrated that MMS supports the normal healing process of the stomach following exposure to nonsteroidal anti-inflammatory agents (NSAIDs). Traditionally, this compound has been designated "Vitamin U", although it does not meet the classic definition of a vitamin.

### Active Ingredients:

Vitamin A (as natural mixed carotenoids and palmitate), Gamma Oryzanol (from rice), Chlorophyllins (from Mulberry leaf), Vitamin U Complex (as DL-Methionine methylsulfonium chloride), Superoxide Dismutase (from vegetable culture†), Catalase (from vegetable culture†). †Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.



### Supplement Facts

Serving Size: 1 Tablet

	Amount Per Serving	% Daily Value
Vitamin A (as natural mixed carotenoids and palmitate) (IU ratio 2.5:1)	3,500 IU	70%
Gamma Oryzanol (from rice)	100 mg	*
Chlorophyllins (from Mulberry leaf)	20 mg	*
Vitamin U Complex (DL-methylmethionine sulfonium chloride)	10 mg	*
Superoxide Dismutase (from vegetable culture †)	15 mcg	*
Catalase (from vegetable culture †)	15 mcg	*

\* Daily Value not established

**Other ingredients:** Cellulose, modified cellulose gum, modified cellulose, silica and magnesium stearate (vegetable source).

† Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.

This product is gluten and dairy free.

**RECOMMENDATION:** One (1) tablet three (3) times each day as a dietary supplement or as otherwise directed by a healthcare professional.





# IPS®

**Product Number: 6415 (90C)**

IPS® is a comprehensive Intestinal Permeability Support supplement, consisting of a proprietary blend of botanical compounds and amino acids, along with other synergistic constituents. It provides support for healthy gut function, specifically as it relates to permeability and intestinal mucosa integrity. It includes L-Glutamine, which is the preferred fuel for intestinal tissues, promoting repair and intestinal healing. L-Glutamine has also been demonstrated to be a functional component in the repair of ulcers, as well as a contributor to the healing of leaky gut conditions. When the intestinal epithelium becomes injured or compromised, chronic health disturbances may result. IPS® is a unique formula designed to address the specific issue of altered intestinal permeability. It supplies a comprehensive array of nutritional factors to support healthy intestinal function.



## Supplement Facts

Serving Size: 1 Capsule

	Amount Per Serving
Proprietary Blend	600 mg
Jerusalem Artichoke ( <i>Helianthus tuberosus</i> ) (tuber)	*
L-Glutamine	*
Spanish Moss ( <i>Tillandsia usneoides</i> ) (whole)	*
Lamb Intestine Concentrate	*
Glucosamine Sulfate (from shrimp & crab shell)	*
Gamma Oryzanol (from rice)	*
L-Glutathione (reduced)	*
Cellulase	*

\* Daily Value not established

**Other ingredients:** Capsule shell (gelatin and water) and magnesium stearate (vegetable source).

*Substance with hair-like appearance is actually Spanish moss fibers.*

**This product is gluten and dairy free.**

**RECOMMENDATION:** One (1) capsule three (3) times each day as a dietary supplement or as otherwise directed by a healthcare professional.

**KEEP OUT OF REACH OF CHILDREN**

Store in a cool, dry area.

Sealed with an imprinted safety seal for your protection.

Product # 6415 Rev. 05/13

### Active Ingredients:

Proprietary Blend including Jerusalem Artichoke (*Helianthus tuberosus*) (tuber), L-Glutamine, Spanish Moss (*Tillandsia usneoides*) (whole), Lamb Intestine Concentrate, Glucosamine Sulfate (from shrimp & crab shell), Gamma Oryzanol (from rice), L-Glutathione (reduced), and Cellulase. Note: Substance with hair-like appearance is actually Spanish moss fibers.



# L-Glutamine Powder™

**Product Number: 5209 (500 g)**

L-Glutamine is the most abundant amino acid in the body. Although the body manufactures glutamine during times of extreme stress (such as after very heavy exercise or an injury), in certain circumstances the body may need more glutamine than it can make. Most glutamine is stored in the muscles, followed by the lungs, where much of the glutamine is made. According to the University of Maryland Medical Center (<https://umm.edu.com>), glutamine functions as an important compound in removing excess ammonia (a common waste product in the body). It also assists in immune system functions, and appears to be needed for normal brain function and digestion. Glutamine helps to protect the gastrointestinal mucosa, and is a major fuel for enterocytes. It also supports tissues in the body that rapidly turn over, such as intestinal cells (intestinal epithelium). High levels of cortisol during times of stress can lower the body's stores of glutamine.

L-Glutamine Powder™ supplies 3g of L-Glutamine per teaspoon, as a nonhydrolyzed, free-form L-Amino Acid.

### Active Ingredients:

Glutamine (as L-Glutamine). L-Glutamine is a non-hydrolyzed, naturally produced, free-form L-Amino Acid. CERTIFIED PURE. Contains no additives of any kind.



## Supplement Facts

Serving Size: 1 teaspoon (approx. 3 g)

Servings Per Container: 166

	Amount Per Serving	% Daily Value
Glutamine (as L-Glutamine)†	3 g	*

\* Daily Value not established

**Ingredients:** L-Glutamine.

† Non-hydrolyzed, naturally produced, free-form L-Amino Acid

**CERTIFIED PURE**

Contains no additives of any kind

**This product is gluten and dairy free.**

**RECOMMENDATION:** One (1) teaspoon (approx. 3 g) each day as a dietary supplement or as otherwise directed by a healthcare professional.

**Adjunct Products: Aqueous Zinc™, Bio-Ae-Mulsion®, Bio-D-Mulsion®, Immuno-gG®, NAC, and Whey Protein Isolate**



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