

# Intenzyme Forte™

## Functions of Proteolytic Enzymes

Proteolytic enzymes occur widely in plants, animals and microorganisms, where they catalyze the hydrolysis of peptide bonds of proteins. The ultimate products of proteolytic degradation are amino acids. Many proteases in the body produce protein fragments (peptides), that possess physiologic activity. Actions of proteolytic enzymes include: digestion, blood clotting, hormone and cytokine processing (such as insulin), growth hormone, interleukin 1-B, endorphins, enkephalins, renin, kinins, remodeling of connective tissue, and lysosomal degradation. Even apoptosis (programmed cell death) employs proteolytic enzymes (ICE-like proteases) which degrade constituents of the cellular cytoskeleton.

## Proteolytic Enzymes in Digestion

A wide assortment of proteolytic enzymes are required to degrade food proteins to amino acids. Digestive enzymes are manufactured as inactive precursors called zymogens, which must first be activated. Ingested proteins first encounter proteolytic enzymes in the stomach, which produces pepsin. Pepsin refers to a closely related group of proteases produced by the gastric mucosa from its precursor, (pepsinogen), by HCl. Pepsins are classified as

endopeptidases because they leave peptide bonds within protein chains. Upon leaving the stomach, the acidic chyme is neutralized in the intestine by sodium bicarbonate from pancreatic secretions, and subjected to a battery of powerful proteases. The acid in chyme triggers pancreatic secretions; therefore, hypochlorhydria may be related to pancreatic insufficiency.

The exocrine pancreas produces a battery of potent endopeptidases, such as trypsin and alpha chymotrypsin, as their zymogens (trypsinogen and chymotrypsinogen, respectively). Trypsin possesses a very high degree of peptide bond specificity; it cleaves bonds adjacent to arginine and lysine only. Chymotrypsin cleaves peptide bonds adjacent to large, non-polar amino acids, such as aromatic amino acids and methionine. Other pancreatic proteases include elastase. In contrast, pancreatic exopeptidases, represented by carboxypeptidases, cleave amino acids from the carboxyl terminus of peptides. Carboxypeptidases are derived from the zymogens,



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procarboxypeptidase A and B. Aminopeptidases are produced by the intestinal mucosa. These digestive enzymes hydrolyze off amino acids sequentially from the N terminus of peptides. Trypsin activates most of the zymogens; trypsin is converted from trypsinogen by the enteric enzyme enteropeptidase. Thus, the activation cascade of zymogens occurs after secretion into the intestine to prevent premature activation of pancreatic proteases.

### **Ingredients of Intenzyme Forte™**

**Pancreatin** is a preparation of porcine pancreas, highly enriched in pancreatic enzymes, including trypsin, chymotrypsin, carboxypeptidase, amylase (starch digestion), and lipase (fat digestion). Porcine pancreatin contains these enzymes in a ratio similar to human pancreas. The activity of digestive enzymes from human and porcine pancreas are similar. Pancreatic enzymes can be denatured by exposure to gastric acid; therefore, **Intenzyme Forte™** is coated to preserve these proteolytic activities during transit through the gastrointestinal tract. The benefits of pancreatin in supporting digestive function has been reported.<sup>(1)</sup> Excessive amounts of pancreatic enzymes can cause thickening of the colon in children with cystic fibrosis.<sup>(2,3)</sup>

**Bromelain** is a sulfhydryl protease obtained from the stems and fruit of the pineapple. This enzyme is an endopeptidase with broad amino acid specificity, permitting it to hydrolyze many soluble proteins as found in food. It is active over the range of 4 to 9. Bromelain is activated by reducing agents such as cysteine and inhibited by heavy metals. It is a glycoprotein, and the carbohydrate moiety may confer enzyme stability. The arachidonic acid cascade leads to the production of proinflammatory eicosanoids. In an animal model

system, bromelain interfered with the arachidonic acid cascade.<sup>(4)</sup> *In vitro* experiments showed that bromelain and papain blocked the formation of immune complexes *in vitro*,<sup>(5)</sup> and a similar effect was noted in rabbits with orally administered pancreatin, bromelain and papain.<sup>(6)</sup> Bromelain has been reported to support the restoration of normal function in skeletal muscle.<sup>(7)</sup>

**Papain** is obtained from the latex of the green fruit and leaves of papaya. It is active from pH 3 to 10.5, with an optimum between pH 5 and 7. Therefore, both papain and bromelain are relatively stable to pH ranges occurring in the GI tract. Papain is also a sulfhydryl enzyme and is activated by reducing agents, such as reduced cysteine. On the other hand, metal ions such as iron, zinc, copper, and heavy metals, such as lead and mercury, inhibit papain. Like bromelain, papain possesses a broad specificity for peptide cleavage; it will hydrolyze peptide bonds of many different amino acids.

### **Intestinal Uptake of Proteins and Peptides**

The sum of the activities of multiple digestive enzymes assures that the overall effect will be to break down many denatured food proteins. However, not all ingested proteins are completely degraded. Highly fibrous proteins such as collagen, elastin and keratins resist proteolytic attack. In addition, undenatured globular proteins resist degradation. For example, chymotrypsin itself resists intestinal proteolytic degradation, and appreciable levels of chymotrypsin are excreted.<sup>(8)</sup> In addition, orally administered proteins and antigens can be absorbed by the intestine.<sup>(9)</sup> Absorption of maternal antibodies by an infant's intestines is a well-established example. Bromelain labeled with 125-iodine was used to follow uptake in rats.<sup>(10)</sup> Absorption was confirmed. After 1 hour, radioactivity was

recovered in a protein corresponding to native bromelain. Furthermore, the absorbed bromelain was preferentially localized at sites of inflammation.

The gut-associated immune system receives antigenic macromolecules from the intestinal lumen. Specialized enterocytes called M cells transport macromolecules through the epithelium to the lamina propria. IgA, synthesized by plasma cells of the lamina propria in response to these antigens, is then exported by the gut epithelium as secretory IgA to confer specific protection to the gut mucosa. Other transport processes exist. Thus macromolecules, including intact proteins, can be transported across the epithelial cell membranes by transcellular mechanisms, followed by phagocytosis of the foreign material. Some of the vesicular material fuses with lysosomes to be degraded within phagolysosomes by lysosomal proteases. The remainder passes from enterocytes through the basolateral membrane into the interstitial space, from which it may become available for macrophages and lymphoid cells, or it may pass into the blood or lymph.<sup>(11)</sup>

Orally administered enzymes consumed on an empty stomach may have a greater likelihood of being absorbed. Coated bromelain, trypsin and chymotrypsin are reported to support normal maintenance and repair. On the other hand, proteolytic enzymes consumed with a meal would be expected to act as digestive support for normal proteolytic degradation of food proteins.

### **Proteolytic Enzymes in Inflammation**

Mast cells contain large amounts of histamine and heparin as well as proteolytic enzymes that participate in inflammation. Release of these agents from mast cells is triggered by chemical agents, antibody-antigen reactions and certain drugs. A variety of substances besides

histamine act as vasodilators, which increase capillary permeability to leukocytes and cause pain. In particular, kinins such as bradykinin and kallidin represent vasodilator polypeptides. Bradykinin is a peptide produced by the enzyme kallikrein from its alpha 2-globulin substrate. Tissue kallikreins may be activated and released by trauma, inflammation, toxins and heat. Trypsin-like proteases behave like kallikrein to release kinins. Other endogenous proteolytic enzymes destroy kinins: Bradykinin is destroyed by kininase I and II (angiotensin I converting enzyme). The balance between kinin formation and inactivation is also controlled by kallikrein inhibitors in the blood.

Proteolytic enzymes are involved in vasoconstriction as well as vasodilation. Both angiotensin, a potent vasoconstrictor, and bradykinin are released from different precursor proteins by proteolytic enzymes. On the other hand, the converting enzyme (proteolytic enzyme) of the angiotensin system is a powerful inactivator of bradykinin. Possibly exogenous proteolytic enzyme may destroy bradykinins. Proteolytic enzymes of kinin activation also have a role in blood clotting, thus plasma kallikrein activates factor XII (Hageman factor), a protease required in the blood clotting scheme.

### **Activity of Proteolytic Enzymes**

**Pancreatin.** 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 (100 USP units of proteolytic activity per milligram). Therefore, 100 mg of pancreatin 4X per tablet of **Intenzyme Forte™** provides 10,000 USP units. **Intenzyme Forte™** contains 100 mg of trypsin/ chymotrypsin per tablet.

**Trypsin.** The USP assay for trypsin is based upon the hydrolysis of a synthetic substrate for trypsin. The amount of trypsin in **Intenzyme Forte™** is equivalent to 8,000 USP units. In addition, pancreatin itself contains a substantial amount of trypsin activity (10,000 USP units). The total trypsin activity in a single tablet of **Intenzyme Forte™** is 18,000 units.

**Chymotrypsin.** Chymotrypsin is also a component of pancreatin; typically, there are 5 units of trypsin activity per unit of chymotrypsin in pancreatin. Papain. Papain activity is based upon the hydrolysis of casein. The amount of papain in **Intenzyme Forte™** is equivalent to 50 mg USP papain per tablet, representing 300,000 USP papain units.

**Bromelain.** **Intenzyme Forte™** provides 50 mg of bromelain, standardized to 1,000 MCU (milk clotting units) per gram, similar to 50 mg of papain USP. (The U.S. Pharmacopoeia has not yet established a standard assay for bromelain.)

## References

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**Intenzyme Forte™** is available in 50-count (#1207), 100-count (#1201) and 500-count (#1202) bottles .

## 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.

**KEEP OUT OF REACH OF CHILDREN**  
Store in a cool, dry area. Sealed with an imprinted safety seal for your protection.

Product # 1207 Rev. 08/13

To place your order for **Intenzyme Forte™** or for additional information please contact us below.



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# GI HEALTH



**BIOTICS<sup>®</sup>**  
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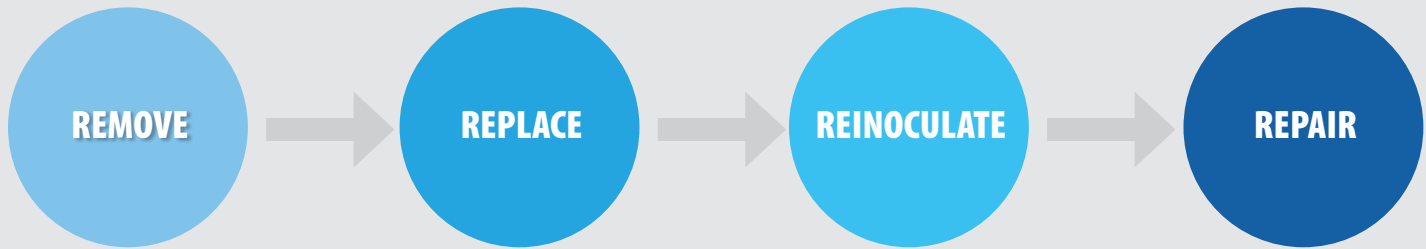
*"The Best of Science and Nature"*

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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	*

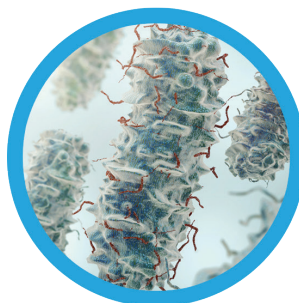
†Percent Daily Values based on a 2,000 calorie diet.

\* Daily Value not established

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



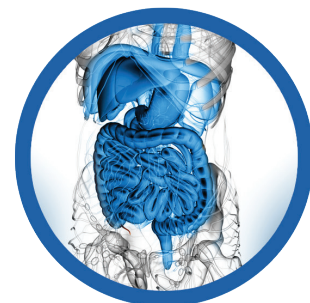
**REMOVE**



**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

Table with 2 columns: Ingredient, Amount Per Serving. Includes Proprietary Blend (600 mg), Jerusalem Artichoke, L-Glutamine, Spanish Moss, Lamb Intestine Concentrate, Glucosamine Sulfate, Gamma Oryzanol, L-Glutathione, and 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.



Supplement Facts

Serving Size: 1 teaspoon (approx. 3 g)

Servings Per Container: 166

Table with 3 columns: Ingredient, Amount Per Serving, % Daily Value. Includes 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.

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.

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



BIOTICS RESEARCH CANADA

"The Best of Science and Nature"

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These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.