

GI HEALTH

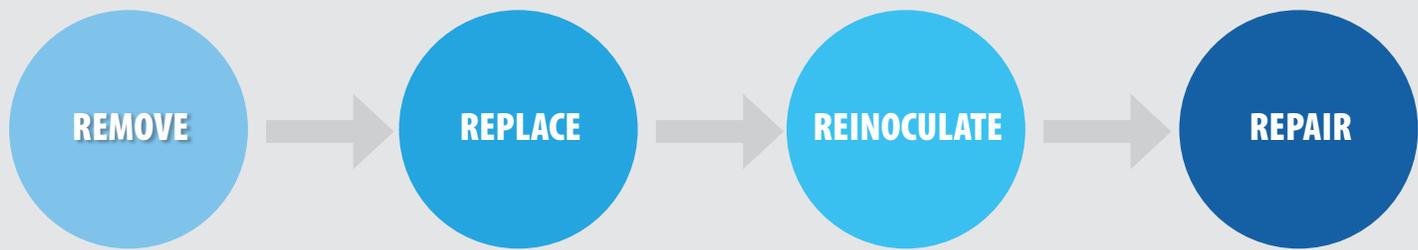


BIOTICS[®]
RESEARCH
CANADA

"The Best of Science and Nature"

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.[®]

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

A.D.P.[®] is a proven-effective* patented formula. Utilizing micro-emulsification and delayed release technologies, A.D.P.[®] 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.[®] 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.



Dysbiocide[®]

Product Number: 7856 (120C)

Dysbiocide[®] 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** (<i>Beta vulgaris</i>) (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.

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.

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
Proprietary Blend	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	*

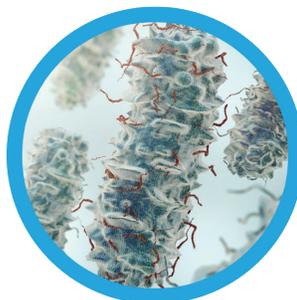
†Percent Daily Values based on a 2,000 calorie diet.

* Daily Value not established

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



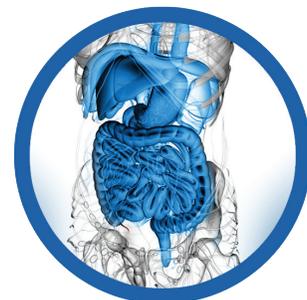
REMOVE



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-3™

Product Number: 1400 (100C)

Biomega-3™ supplies the highest quality, all-natural (not modified by distillation processes) fish oil, supplying EPA and DHA omega-3 fatty acids. Biomega-3 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 ω -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-3™ 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	10	
Calories from Fat	10	
Total Fat	1 g	2%*
Saturated Fat	<0.5 g	<3%*
Cholesterol	5 mg	2%
Vitamin E (as d-alpha tocopherol)	10 IU	33%
Omega-3 fatty acids	300 mg	†

* 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.



Butyric-Cal-Mag™

Product Number: 7810 (180C)

Butyric-Cal-Mag™ supplies a supplemental source of butyric acid (as calcium & magnesium butyrate), the primary fuel of colonic cells. Butyric acid is a naturally-occurring 4-carbon fatty acid formed in the healthy colon from the fermentation of dietary fiber by friendly bacteria.

Active Ingredients:

Vitamin A, Panthothenic Acid, Calcium, Magnesium, Butyric Acid



Supplement Facts

Serving Size: 2 Capsules
Servings Per Container: 90

	Amount Per Serving	% Daily Value
Calories	10	
Calories from Fat	10	
Total Fat	1 g	2%†
Saturated Fat	1 g	2%†
Vitamin A (as natural mixed carotenoids and palmitate, 1:1)	3,333 IU	67%
Pantothenic Acid (as calcium pantothenate)	16.7 mg	167%
Calcium (as calcium butyrate)	90 mg	9%
Magnesium (as magnesium butyrate)	77 mg	19%
Butyric Acid (as calcium and magnesium butyrate)	1,033 mg	*

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

Other ingredients: Ethyl vanillin (flavoring) and capsule shell (gelatin and water).

This product is gluten and dairy free.

RECOMMENDATION: One (1) to two (2) capsules with each meal as a dietary supplement or as otherwise directed by a healthcare professional.



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.



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.

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.

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.



HCl-Ease™

Product Number: 1235 (120C)

HCl-Ease® provides highly effective, targeted nutritional support for gastroesophageal health. It includes a combination of five herbs, along with pepsin, to aid in the degradation of food proteins into peptides.

Active Ingredients:

Proprietary Blend including Meadowsweet (*Filipendula ulmaria*)(herb)(extract)*, Okra (*Abelmoschus esculentus*)(fruit)*, Eyebright (*Euphrasia officinalis*)(herb)(extract)*, Marshmallow (*Althaea officinalis*)(root)(extract)*, Asian plantain (*Plantago asiatica*)(extract)* and Pepsin*. *Daily Value not established.



Supplement Facts

Serving size: 2 capsules
Servings per container: 60

	Amount Per Serving
Proprietary Blend	820 mg
Meadowsweet (<i>Filipendula ulmaria</i>)(herb)(extract)*, Okra (<i>Abelmoschus esculentus</i>)(fruit)*, Eyebright (<i>Euphrasia officinalis</i>)(herb)(extract)*, Marshmallow (<i>Althaea officinalis</i>)(root)(extract)*, Asian plantain (<i>Plantago asiatica</i>)(extract)*; Pepsin*	

* Daily Value not established

Other ingredients: Capsule shell (gelatin and water) and cellulose.

This product is gluten and dairy free.

RECOMMENDATION: Two (2) capsules two (2) times each day as a dietary supplement or as directed by a healthcare professional.

WARNING: Not recommended for those with salicylate intolerance.

Caution: Do not take this product if you are pregnant or lactating.



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.

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.



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.

REPAIR (continued)



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



BIOTICS[®]
RESEARCH
C A N A D A

"The Best of Science and Nature"

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Biotics Research Corporation

Technical Support

Products #1210 & 1215

Beta Plus™ & Beta-TCP™

Nutritional Support for Bile Production and Biliary Stasis



In the 16th century, Paracelsus introduced the concept of the tartaric diseases to explain how stones are formed in the human body by the precipitation of substances from body fluids, analogous to the deposition of tartar in wine casks. Today we know that in industrialized countries more than 80% of gallstones consist mainly of cholesterol, the prevalence of gallstones is about 10%, and in people between 40 and 50 years of age the 5-year incidence is about 3%.

Bile, Defined

Bile functions as the body's "detergent" emulsification and absorption of lipids, critical for fat digestion and assimilation. Bile is produced by the liver, and is temporarily stored in the gall bladder. Bile is released into the small intestine in response to hormones, such as cholecystokinin, when fat enters the intestine.

Bile consists of a mixture of bile salts, bile acids, cholesterol, bilirubin and phospholipids chiefly phosphatidylcholine. The ratio of individual lipids are critical to maintain a stable micellar concentration. The molar ratios are typically 5:15:80 for cholesterol/phosphatidylcholine/bile salts. If the bile concentration becomes too high, cholesterol will precipitate and gallstones will form in the gall bladder, a condition known as cholelithiasis.¹

Bile Formation

Bile salts and acids represent oxidized derivatives of cholesterol. About 80% of the cholesterol in the body will eventually be disposed of as cholic acid. The primary bile acids, cholic acid and chenodeoxycholic acid, possess a carboxylic acid side chain which confers hydrophilic properties to the lipophilic sterol ring and creates detergent-like molecules. The liver attaches taurine and glycine to bile acids to create bile salts (taurocholate or taurochenodeoxycholate and glycocholate or glycodeoxycholate, respectively). Bacterial enzymes in the colon can convert these to secondary bile acids, deoxycholate and lithocholate.

Bile and Digestion

Bile is needed for efficient uptake of oily nutrients (fats). When bile acids and bile salts first encounter ingested fats, they act as emulsifiers to create suspensions which can be broken down enzymatically. The process involves several important steps; sequentially indicated as:

1. The combined action of bile salts and pancreatic lipase initiates hydrolysis of triglycerides to free fatty acids and diglycerides, resulting in the formation of emulsions containing other lipid-soluble nutrients, including vitamins and carotenoids. The particle size of these emulsions ranges from 200 to 5,000 nm in diameter.

2. Lipase is then able to hydrolyze both di- and triglycerides to monoglycerides and free fatty acids. Lipase requires a smaller protein called colipase, another pancreatic product, to bind to triglycerides and activate the lipase.

3. Upon further release of bile salts, the lipid aggregates become smaller, from 3 to 10 nm in diameter. The normal endpoint of triglyceride digestion is a product containing 70% free fatty acid anions, 25% beta monoglycerides and 5% cholesterol. The micelles are then taken up by the epithelial cells of the brush border membrane via passive diffusion. After absorption, the fate of fatty acids depends upon their sizes. Medium chain fatty acids, with less than 10-12 carbons, pass directly from the mucosal cells into the portal blood and bind to serum albumin. Longer chain fatty acid anions are re-esterified with beta monoglycerides in the smooth endoplasmic reticulum to reform triglycerides. The newly synthesized triglycerides are complexed with apoproteins, cholesterol and phospholipids, to produce particles called chylomicrons. Chylomicrons are released from mucosal cells by exocytosis and enter the lymph, rather than entering the bloodstream directly.

Enterohepatic Circulation

Bile salts do not cross the mucosal barrier into the lymphatic system but rather they are reabsorbed as micelles in the lower region of the small intestine. Most of the bile salts released into the intestine are reabsorbed in the lower ileum where bacteria can reduce free bile acids to lithocholate and deoxycholate. The absorbed bile acids and salts are transported via the portal vein to the liver as complexes with serum albumin. The liver efficiently extracts them, conjugates them with amino acids and again secretes them as bile, which is returned to the gall bladder to continue to aid digestion. Bile salts are recirculated 2-3 times through the liver with each meal.

Betaine

Beets are a concentrated source of Betaine, which functions in the methylation of homocysteine, converting it into methionine and dimethylglycine. An elevated level of homocysteine, termed homocysteinemia, is a risk factor for cardiovascular complications. Dimethylglycine, in turn, functions as a methyl donor, thus aiding in both the detoxification and immune pathways. Betaine is often referred to as a "lipotropic factor" as it assists the liver in the processing of fats. Studies with betaine have correlated its use with liver protection. For example in one study, subjects exposed to carbon tetrachloride (CCl₄), were followed with an oral treatment of betaine. They were observed to have a significant reduction in liver necrosis, which was attributed to betaine use. In another study, following CCl₄ injection in test animals, supplemental betaine was observed to reduce liver triglycerides as well as centrilobular hepatic lipidosis.³

Fiber and the Binding of Bile Components

Certain kinds of dietary fiber bind bile salts. Examples include pectin (found in fruits and berries), hemicelluloses (found in cereal grains), and certain types of fiber that occur in legumes. When the diet is rich in partially soluble fiber, more bile is excreted (not reabsorbed). As a consequence, blood cholesterol levels may be reduced to account for more bile salt formation, consequently slowing the development of atherosclerosis.

Nutritional Support of Bile Formation

Bile. Bile salts, along with other components, including cholesterol, electrolytes and water are stored in the gallbladder. Bile salts act as an enzyme aide, and serve to enhance the absorption of fatty acids and some fat-soluble vitamins. Bile also serves as a fat emulsifier, thus increasing the surface area of the fat, and allowing it to become water-soluble. Thus bile aids in the absorption of fatty acids and cholesterol via the formation of micelles. The micelles, soluble in chyme, are then easily absorbed by epithelial cells. Bile also serves in a protective



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.

mechanism, functioning to maintain the intestinal barrier against invading microorganisms.^{4,5}

Pancrelipase. (*Pancreatic lipase*) Pancrelipase functions in the hydrolysis of triacylglycerol in the presence of bile salts, thus accordingly functions in the absorption of dietary fats and lipids. Accordingly, in the presence of gastric lipase, triacylglycerol is hydrolyzed to monoglycerides and free fatty acids. Pancrelipase preparations have been shown to reduce fecal fat, indicating an improvement in the fat digestive process with the use of Pancrelipase.^{6,7}

Taurine. Taurine is a highly charged cysteine derivative, synthesized in vivo from the essential amino acid methionine. When conjugated to bile acids, an increased polarity of the bile acid results, thus increasing its amphipathic (detergent-like) properties. In one study dietary taurine was demonstrated to enhance the degradation of cholesterol and subsequent excretion via bile acids.⁸ In animal studies supplementary taurine was demonstrated to both increase serum HDL, and significantly decrease total cholesterol.⁹ Additionally, a significant increase in the concentration of fecal total bile acids has been observed with taurine supplementation.¹⁰ The action of taurine on serum cholesterol was attributed to the facilitation of hepatic cholesterol 7- α -hydroxylase activity.¹¹

Vitamin C. The enzyme noted above, cholesterol 7- α -hydroxylase, is the enzyme responsible for the initial step in the catabolism of cholesterol to conjugated bile acids. This enzyme is a vitamin C dependent enzyme. In studies supplemental vitamin C was shown to reduce total plasma cholesterol and triglycerides, which was correlated to a marked modification in apolipoprotein patterns.¹² In patients with gallstones, vitamin C was shown to influence the environment of the gallbladder, resulting in a higher concentration of phospholipids, along with a changed ratio of bile acids, indicating an influence of vitamin C on the formation of gallstones.¹⁴ Additionally, in women, an inverse correlation between serum ascorbic acid and the prevalence of both clinical and asymptomatic gallbladder symptomatology was observed.¹⁵

Product Information

Beta Plus™ is available in bottles of 90 and 180 tablets. **Beta-TCP™** is available in bottles of 90 and 180 tablets.

Product Adjuncts

MCS®, **Mg-Zyme™**, **B6 Phosphate**, **Livotrit Plus®**
Phosphatidylcholine for **Beta-TCP™**

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Beta-TCP™

Supplement Facts		
Serving Size: 1 Tablet		
	Amount Per Serving	% Daily Value
Vitamin C (ascorbic acid)	60 mg	100%
Taurine	100 mg	*
Pancrelipase (from porcine)	50 mg	*
Beet Concentrate** (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.

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.

NDC #55146-01215 Rev. 5/08

Beta Plus™

Supplement Facts	
Serving Size: 1 Tablet	
	Amount Per Serving
Ox Bile Extract	100 mg*
Pancrelipase (from porcine)	50 mg*
Beet Concentrate (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.

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NDC# 55146-01209 Rev. 12/08

**For more information, contact our
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