

Lower Bowel Support

ADVANCED Naturals PRODUCT MONOGRAPH

Product composition

Medicinal Ingredients:

Each capsule contains:

| | |
|---|--------|
| L-Glutamine..... | 420 mg |
| Turmeric rhizome (<i>Curcuma longa</i>) 4:1 extract (equivalent to 200 mg)..... | 50 mg |
| Goldenseal root & rhizome (<i>Hydrastis canadensis</i>) 4:1 extract (equivalent to 760 mg)..... | 190 mg |
| Ginger root (rhizome) (<i>Zingiber officinale</i>) 4:1 extract (equivalent to 100 mg)..... | 25 mg |
| N-Acetyl-D-Glucosamine..... | 5 mg |
| Gamma Oryzanol (from rice grain)..... | 10 mg |
| Capillary Artemisia herb (<i>Artemisia capillaris</i>) 12:1 extract (equivalent to 120 mg)..... | 10 mg |
| Bai-zhu Atractylodes rhizome (<i>Atractylodes macrocephala</i>) 12:1 extract (equivalent to 85.2 mg)..... | 7.1 mg |
| Codonopsis root (<i>Codonopsis pilosula</i>) 12:1 extract (equivalent to 66 mg)..... | 5.5 mg |
| Schisandra berry (<i>Schisandra chinensis</i>) 12:1 extract (equivalent to 66 mg)..... | 5.5 mg |
| Job's Tears seed (<i>Coix lacryma-jobi</i>) 12:1 extract (equivalent to 66 mg)..... | 5.5 mg |
| Chinese Thoroughwax root (<i>Bupleurum chinense</i>) 12:1 extract (equivalent to 43.2 mg)..... | 3.6 mg |
| Psyllium seed (<i>Plantago asiatica</i>) 12:1 extract (equivalent to 43.2 mg)..... | 3.6 mg |
| Poria sclerotium (<i>Poria cocos</i>) 12:1 extract (equivalent to 43.2 mg)..... | 3.6 mg |
| Magnolia bark (<i>Magnolia officinalis</i>) 12:1 extract (equivalent to 43.2 mg)..... | 3.6 mg |
| Phellodendron bark (<i>Phellodendron amurense</i>) 12:1 extract (equivalent to 43.2 mg)..... | 3.6 mg |
| Chinese Giant Hyssop aerial parts (<i>Agastache rugosa</i>) 12:1 extract (equivalent to 43.2 mg)..... | 3.6 mg |
| Ginger root (rhizome) (<i>Zingiber officinale</i>) 12:1 extract (equivalent to 43.2 mg)..... | 3.6 mg |
| Chinese Ash Branch bark (<i>Fraxinus chinensis</i>) 12:1 extract (equivalent to 43.2 mg)..... | 3.6 mg |
| Chinese Licorice root (<i>Glycyrrhiza uralensis</i>) 12:1 extract (equivalent to 43.2 mg)..... | 3.6 mg |
| Chinese Peony root (<i>Paeonia lactiflora</i>) 12:1 extract (equivalent to 28.8 mg)..... | 2.4 mg |
| Tangerine peel (<i>Citrus reticulata</i>) 12:1 extract (equivalent to 28.8 mg)..... | 2.4 mg |
| Siler root (<i>Ledebouriella seseloides</i>) 12:1 extract (equivalent to 28.8 mg)..... | 2.4 mg |
| Chinese Goldthread rhizome (<i>Coptis chinensis</i>) 12:1 extract (equivalent to 28.8 mg)..... | 2.4 mg |
| Costus root (<i>Saussurea lappa</i>) 12:1 extract (equivalent to 28.8 mg)..... | 2.4 mg |
| Fragrant Angelica root (<i>Angelica dahurica</i>) 12:1 extract (equivalent to 19.2 mg)..... | 1.6 mg |
| Marigold flower (<i>Calendula officinalis</i>) 5:1 extract (equivalent to 5 mg)..... | 1.0 mg |
| Cranesbill root (<i>Geranium maculatum</i>)..... | 1.0 mg |
| Marshmallow root (<i>Althaea officinalis</i>)..... | 1.0 mg |

Non-medicinal ingredients: Hypromellose, water

Recommended dose: Adults: Take 2 capsules in the morning on an empty stomach. Take 2 capsules in the evening on an empty stomach.

Duration of use: May take up to one week to produce beneficial effects.

Indication:

- Provides Goldenseal traditionally used in Herbal Medicine to help alleviate infectious and inflammatory conditions of the digestive tract such as gastritis.
- Provides Goldenseal traditionally used in Herbal Medicine as a bitter to aid digestion and to increase appetite (stomachic).
- Provides Goldenseal traditionally used in Herbal Medicine to help relieve digestive disturbances such as dyspepsia.

Contraindications: Do not use if you are pregnant, breastfeeding, if you have a bile duct obstruction and/or are allergic to plants of the Asteraceae/Compositae/Daisy family.

Warnings: Keep out of reach of children.

Consult a health care practitioner prior to use if you are taking antiplatelet medication and/or blood thinners, or if you have gallstones, stomach ulcers, excess stomach acid, blood pressure problems, and/or a kidney disorder.

Consult a health care practitioner if symptoms persist or worsen.

Precautions: Not to be used by children.

Consumption with alcohol, other medications and/or natural health products with sedative properties is not recommended.

Adverse Effects: Hypersensitivity/allergy is known to occur; in which case, discontinue use.

Overdose: For management of suspected product overdose it is recommended to contact your physician.

Symptoms of Overdose: Has not been investigated nor any reports have been filed.

Supporting Research and Traditional Evidence

L-Glutamine

L-glutamine helps to restore plasma glutamine levels, support immune system health, support digestive system health, and assist in muscle cell repair after periods of physical stress (e.g., prolonged exhaustive exercise). (NHPD Monograph)

Key functions of glutamine/glutamate amino acids in metabolism include their function as a substrate for protein synthesis, ureogenesis in the liver, and hepatic and renal gluconeogenesis; anabolic precursor for muscle growth; acid-base balance in the kidney; inter-organ nitrogen transport; precursor for neurotransmitter synthesis, for nucleotide and nucleic acid synthesis and for glutathione production; and as an oxidative fuel for intestine and cells of the immune system. Many of these functions are connected to the formation of glutamate from glutamine. (Newsholme *et al.*, 2003)

Glutamine has been shown to reduce intestinal permeability, which can be increased by chemotherapy. In a trial to examine the clinical effects of glutamine on gastrointestinal (GI) toxicity, 44 patients receiving chemotherapy for gastric or colorectal cancer with WHO side-effect grading system of grade 2 or higher received either glutamine (20 g alanine-glutamine dipeptide intravenously for 5 days) or placebo during their next cycle of chemotherapy. Patients were crossed over to the alternate treatment in chemotherapy cycle 2. Significantly lowered plasma endotoxin levels, improved nausea/vomiting scores, and decreased diarrhoea were reported. Results showed that intravenous alanine-glutamine was effective in preventing intestinal permeability disruption and GI toxicity following chemotherapy. (Li *et al.*, 2009)

Turmeric rhizome (*Curcuma longa*) 4:1 extract (equivalent to 200 mg)

Turmeric rhizome has been used traditionally to help relieve flatulent dyspepsia (carminative), to aid digestion (NHPD Monograph), and in dyspeptic conditions (Blumenthal, 1998). The herb has been described in Ayurveda as a treatment for inflammatory diseases. The active principle curcumin, a polyphenolic antioxidant, the yellow pigment present in turmeric (curry powder) has been shown to exhibit numerous activities. Curcumin binds to a variety of proteins and inhibits the activity of various kinases; by modulating the activation of various transcription factors, curcumin regulates the expression of inflammatory enzymes, cytokines, adhesion molecules, and cell survival proteins. (Goel *et al.*, 2008)

In a 6-month randomized, double-blind, multicenter trial investigating curcumin as maintenance therapy in ulcerative colitis (UC), 89 patients with quiescent UC received either curcumin 1g after breakfast and 1g after the evening meal, plus sulfasalazine (SZ) or mesalamine; or placebo plus SZ or mesalamine. Clinical activity index (CAI) and endoscopic index (EI) were measured at baseline, every 2 months (CAI), at month 6, and 6 months after the final treatment (6-month follow-up). Significantly decreased recurrence rates were observed in patients treated with curcumin (2 of 43 patients; 4.65%) compared to placebo (8 of 39 patients; 20.51%). Seven patients were excluded from the analyses due to protocol violations. Treatment with curcumin significantly improved CAI and EI at 6 months. At 6-month follow-up, 8 additional patients in the curcumin group and 6 patients in the placebo group relapsed. Curcumin was considered to be promising and safe treatment for maintaining remission in patients with quiescent UC. (Hanai *et al.*, 2006)

Goldenseal root and rhizome (*Hydrastis canadensis*) 4:1 extract (equivalent to 760 mg)

Goldenseal root & rhizome has been used traditionally as a bitter to aid digestion (e.g., gastritis, peptic ulceration, colitis), increase appetite (stomachic), help alleviate infectious and inflammatory conditions of the digestive tract, help relieve digestive disturbances such as dyspepsia (specifically for atonic dyspepsia with hepatic symptoms), and has been used as a mild laxative. (NHPD Monograph; Newall *et al.*, 1996)

Two studies by Gurley *et al.*, 2007 and 2008 support the safety of the ingredient above the upper allowable dose; Gurley *et al.* used a standardized extract above 3000 mg crude form and no adverse effects were observed in the studies. (Gurley *et al.*, 2007; Gurley *et al.*, 2008)

Ginger root (rhizome) (*Zingiber officinale*) 4:1 extract (equivalent to 100 mg)

Ginger root has been shown clinically to help prevent nausea and vomiting associated with motion sickness and/or seasickness. It has been used traditionally to help relieve digestive upset/disturbances (e.g., lack of appetite, nausea, digestive spasms, indigestion, dyspepsia and flatulent colic [carminative]), and as an expectorant and anti-tussive to help relieve bronchitis, coughs and colds. (NHPD Monograph)

In a randomized, double-blind study to investigate the effects of ginger on gastric emptying, antral motility, proximal gastric dimensions and postprandial symptoms, 24 health subjects received either 3 ginger capsules (total 1200 mg) or placebo after an 8-hour fast, followed by a low-nutrient soup (500 mL). Antral area, fundus area and diameter, and frequency of antral contractions were measured using ultrasound at frequent intervals over 90 min. Gastric half-emptying time was calculated using change in antral area. Gastrointestinal sensations and appetite were scored using visual analog questionnaires. Antral area decreased more rapidly, gastric half-emptying time was shortened, and the frequency of antral contractions was increased with ingestion of ginger. No differences in fundus dimensions or in GI symptoms were observed between the two groups. Ginger was found to accelerate gastric emptying and to stimulate antral contractions in healthy volunteers, a potential beneficial in symptomatic patient groups. (Wu *et al.*, 2008)

N-Acetyl-D-Glucosamine

N-acetyl-d-glucosamine, an important component of glycoproteins lining the gut, is included in the formulation as a mucosal protectant. Its metabolism differs somewhat from other forms of glucosamine, wherein it is transported from the plasma to the liver and other tissues selectively. In patients with inflammatory bowel disease (IBD), there is a relative deficiency in the acetylation of glucosamine to NAG within the GI tract, which in turn leads to a deficiency in glycosaminoglycans (GAG). An important consequence of mucosal inflammation is breakdown of GAG. (Burton *et al.*, 1983) In a pilot study to investigate the use of NAC in severe treatment-resistant inflammatory bowel disease, 12 children with either Crohn's disease (10) or ulcerative colitis (2), received NAC (total daily dose 3-6 g) orally as adjunct therapy. Seven of the children suffered from symptomatic strictures. Histochemical assessment of epithelial and matrix glycosaminoglycans, and NAC residues was made from the available pre- and post-treatment biopsies (nine cases). Eight of the children given oral NAC showed clear improvement and four required resection. In all cases biopsied, there was evidence of histological improvement, and a significant increase in epithelial and lamina propria GAGs and intracellular NAC. NAC was considered a promising treatment in chronic inflammatory bowel disease, with a mode of action distinct from conventional treatments. (Salvatore *et al.*, 2000)

Gamma Oryzanol (from rice grain)

Gamma oryzanol (gamma-ORZ) has been shown to play an important role in ileal movements, and in inflammation.

In a preclinical study, gastric and ileal movements were measured following administration of gamma-ORZ 1 mg/kg intravenously to a dog. Results showed that gastric and ileal movement was enhanced; these movements were abolished following atropine injection. At a higher dose of gamma-ORZ (10 mg/kg intravenously), a shorter delay between administration of gamma-oryzanol and movement was observed, followed by inhibition of gastric and ileal movement; inhibition was reversed with the administration of quinine or by transection of vagal nerves in the cervical region. With previous transection or atropine injection, bilateral vagal nerves and splanchnic nerves produced no enhancement of gastric and ileal movement following administration of gamma-ORZ. Researchers concluded that gamma-ORZ effects enhancement and inhibition of gastric and ileal movement. (Mizonishi *et al.*, 1980)

In a study to investigate the effects of gamma-ORZ in a murine model of colitis, results showed marked inhibition of inflammation. Colitis was induced in mice with dextran sulphate sodium (DSS). Disease activity index (DAI), histopathology score, tissue myeloperoxidase (MPO) activity, mRNA expressions of cytokines and COX-2, colon length, antioxidant potency and NF-kappaB activity were measured following administration of gamma-ORZ 50 mg/kg/day orally. Both DAI and histopathology score revealed that DSS induced a severe mucosal colitis, with a marked increase in the thickness of the muscle layer, distortion and loss of crypts, depletion of goblet cells and infiltration of macrophages, granulocytes and lymphocytes. MPO activity, pro-inflammatory cytokines and COX-2 levels, NF-kappaB p65 nuclear translocation and inhibitory protein of nuclear factor-kappaB-alpha degradation levels were significantly increased in DSS-induced colitis tissues. Gamma-ORZ markedly inhibited these inflammatory reactions and CAF had a similar potency. Researchers concluded that phytoesteryl ferulates such as in gamma-ORZ could be new potential therapeutic and/or preventive agents for gastrointestinal inflammatory diseases. (Islam *et al.*, 2008)

Capillary Artemisia herb (*Artemisia capillaris*) 12:1 extract (equivalent to 120 mg)

Capillary artemisia has been used traditionally to clear heat, resolve dampness, and reduce jaundice; this is a principal herb for treating jaundice due to either damp-heat or cold-dampness. The herb is used for damp sores, wind rashes, and other skin diseases, particularly those affecting the lower parts of the body. It has also been used for inhibited urination. (Bensky, 2004; Yen K, 1992; PPRC 2005)

Bai-zhu Atractylodes rhizome (*Atractylodes macrocephala*) 12:1 extract (equivalent to 85.2 mg)
Bai-zhu atractylodes rhizome has been used traditionally for spleen vacuity with fullness and distension; vexation and oppression in the chest/diaphragm; diarrhoea; water swelling; plegmureum; and spontaneous sweating. (Yen K, 1992) Bai-zhu atractylodes tonifies the spleen and augments qi in spleen or stomach deficiency with symptoms of diarrhoea, fatigue, sallow complexion, and lack of appetite. It is used to dry dampness and promote water metabolism in cases of fluid accumulation affecting digestion, in edema and in cases of reduced urination due to spleen deficiency/failure to transform and transport. Bai-zhu atractylodes rhizome is used for damp painful obstruction, stabilizing the exterior, and for spontaneous sweating due to qi deficiency. It is used in other types of sweating when combined with an appropriate herb. (Bensky *et al.*, 2004)

Codonopsis root (*Codonopsis pilosula*) 12:1 extract (equivalent to 66 mg)

Codonopsis root has been used in TCM as a tonic for the lungs and spleen, and to increase energy levels in general tonic formulas for anorexia, asthma, chronic diarrhoea, cough, diabetes, dyspnea, vomiting, and palpitations. Codonopsis tonifies the middle burner and augments the qi for lack of appetite, fatigue, tired limbs, diarrhoea, vomiting, or any chronic illness with spleen qi deficiency; and for symptoms of prolapse of the uterus, stomach, or rectum due to collapsed spleen qi. (Bensky *et al.*, 2004, Yen K, 1992)

Schisandra berry (*Schisandra chinensis*) 12:1 extract (equivalent to 66 mg)

Schisandra berry has been used in TCM as a kidney tonic and lung astringent, for the treatment of asthma, coughs, insomnia, neurasthenia, diarrhoea, dysentery, night sweats, spontaneous sweating, involuntary seminal discharge, thirst, impotence, physical exhaustion, excessive urination, depression, irritability, and memory loss. Schisandra berry tonifies the kidneys, binds up the essence, and stops diarrhoea, and is also used for enduring dysentery and for daybreak diarrhoea associated with spleen and kidney deficiency. (Bensky *et al.*, 2004, Yen K, 1992)

Job's Tears seed (*Coix lacryma-jobi*) 12:1 extract (equivalent to 66 mg)

Job's Tears seed facilitates the resolution of dampness and strengthens the spleen. It is used in edema, diarrhoea, leg qi, painful urinary dribbling, and damp-warmth, and addresses both the root and manifestations of these disorders. Job's Tears seed is used traditionally for any damp-heat disorder at any level that is characterized by a greasy tongue coating and digestive problems. (Bensky *et al.*, 2004, Yen K, 1992)

Chinese Thoroughwax root (*Bupleurum chinense*) 12:1 extract (equivalent to 43.2 mg)

Chinese Thoroughwax root has been used in TCM for hepatitis, cirrhosis, and other conditions associated with inflammation as a liver tonic with spleen- and stomach-toning properties. Chinese Thoroughwax root has been used traditionally to help with alternating fever and chills, thoracic fullness, pain in the lateral costal region, bitterness in the mouth, deafness, headache and dizziness, malarial and dysenteric disease, menstrual irregularities and prolapsed uterus. (Bensky *et al.*, 2004, Yen K, 1992)

Psyllium seed (*Plantago asiatica*) 12:1 extract (equivalent to 43.2 mg)



Psyllium seed is used as bulk-forming laxative to promote bowel movement by increasing bulk volume and water content, for the gentle relief of constipation and/or irregularity. (NHPD Monograph) Psyllium seed has been used in TCM to help with urinary stoppage, turbid strangury (painful urination), vaginal discharge, blood in urine, jaundice, water swelling, heat dysentery, diarrhea, nosebleed, reddening, soreness, and swelling of the eyes associated with either liver or kidney deficiency, phlegm, cough, and ulcers. (Bensky et al, 2004, Yen K, 1992)

Poria sclerotium (Poria cocos) 12:1 extract (equivalent to 43.2 mg)
Poria sclerotium has been used in TCM to promote urination and leach out dampness; for urinary difficulty, diarrhea, or edema due to stagnation of fluids or dampness; for spleen deficiency compounded by dampness with symptoms of loss of appetite, diarrhea and epigastric distention; for spleen deficiency with thin mucus in which phlegm moves upward with such symptoms as palpitations, headache, dizziness, and thick, greasy tongue coating; for palpitations, insomnia, or forgetfulness due to either spleen or heart insufficiency or internal obstruction of turbid phlegm. (Bensky et al, 2004)

Magnolia bark (Magnolia officinalis) 12:1 extract (equivalent to 43.2 mg)
Magnolia bark has been used in TCM for reducing and eliminating abdominal distention and fullness, reducing phlegm, calm wheezing; and for nausea and diarrhea. (Bensky et al, 2004, Yen K, 1992)

Phellodendron bark (Phellodendron amurense) 12:1 extract (equivalent to 43.2 mg)
Phellodendron bark has been used traditionally in heat dysentery and diarrhoea, jaundice, steaming bones (TCM term describing a condition of deep internal heat; patient describes a heat that seems to come from the bones), hemorrhoids, hemafecia, turbid strangury, vaginal discharge, and sores. (Bensky et al, 2004, Yen K, 1992)

Chinese Giant Hyssop aerial parts (Agastache rugosa) 12:1 extract (equivalent to 43.2 mg)
Chinese Giant Hyssop has been used traditionally in vomiting and diarrhoea, dysenteric disease, and to dispel middle burner turbid dampness, unbind the stomach, and to release the exterior. (Bensky et al, 2004, Yen K, 1992)

Ginger root (rhizome) (Zingiber officinale) 12:1 extract (equivalent to 43.2 mg)
Ginger root has been used in TCM to help relieve digestive upset/disturbances including lack of appetite, nausea, digestive spasms, indigestion, dyspepsia and flatulent colic (carminative). It has also been used traditionally as an expectorant and anti-tussive to help relieve bronchitis as well as coughs and colds. Ginger root has been shown clinically to help prevent nausea and vomiting associated with motion sickness, and/or seasickness. (NHPD Monograph)

Chinese Ash Branch bark (Fraxinus chinensis) 12:1 extract (equivalent to 43.2 mg)
Chinese Ash Branch bark has been used traditionally for fevers, as a diuretic, antiseptic, and as an appetite stimulant; for the relief of itching, for expulsion of worms, and as an aphrodisiac. (Bensky et al, 2004)

Chinese Licorice root (Glycyrrhiza uralensis) 12:1 extract (equivalent to 43.2 mg)
Chinese licorice root has been used in TCM to tonify the spleen and augment qi; commonly used for spleen deficiency with shortness of breath, lassitude, and loose stools. The herb also moderates spasms of the abdomen and legs and alleviates pain, traditionally when combined with peony. Chinese licorice is also used as an antidote for a variety of toxic substances, both internally and externally. (Bensky et al, 2004)

Chinese Peony root (Paeonia lactiflora) 12:1 extract (equivalent to 28.8 mg)
Chinese peony root has been used in TCM to calm and curb the liver yang and to alleviate pain; for such symptoms as flank, chest or abdominal pain from either constrained liver qi or disharmony between the liver and spleen. It is also used for headache and dizziness due to ascendant liver yang. (Bensky et al, 2004)

Tangerine peel (Citrus reticulata) 12:1 extract (equivalent to 28.8 mg)
Tangerine peel has been used traditionally to promote liver qi and the function of the digestive system. This herb regulates qi, adjusts the middle, and relieves the diaphragm; for spleen or stomach stagnant qi patterns with such symptoms as epigastric or abdominal distention, fullness, bloating, belching, and nausea and vomiting. (Bensky et al, 2004; Yen K, 1992)

Siler root (Ladebouriella seseloides) 12:1 extract (equivalent to 28.8 mg)
Siler root has been used traditionally for wind disorders; to treat dampness, diarrhoea, and pain in the bowels; headache, dizziness, and stiffness of the neck in external wind-cold patterns; wind, cold, and damp bi; aching pain in the joints; hypertonicity of the limbs; and lockjaw. (Bensky et al, 2004, Yen K, 1992)

Chinese Goldthread rhizome (Coptis chinensis) 12:1 extract (equivalent to 28.8 mg)
Chinese Goldthread rhizome has been used in TCM to clear heat and drain dampness in the stomach or intestines accompanied by diarrhea or dysenteric disorder. The herb is also used for vomiting and/or acid regurgitation from stomach heat. (Bensky et al, 2004)

Costus root (Saussurea lappa) 12:1 extract (equivalent to 28.8 mg)
Costus root has been used traditionally to promote the flow of qi, stop pain, strengthen the spleen, eliminate food stagnation, fullness in the chest and abdomen, and eliminate dysenteric disease with tenesmus and cold shan (abdominal pain that presents with stagnation issues). (Bensky et al, 1994; Yen K, 1992)

Fragrant Angelica root (Angelica dahurica) 12:1 extract (equivalent to 19.2 mg)
Fragrant Angelica root has been used in TCM most often in combination with other herbs as a component of formulas for liver qi stasis and spleen deficiency. Fragrant Angelica root is also given for strengthening xue, for cardiovascular conditions/high blood pressure, inflammation, headache, infections, and nerve pain. (Bensky et al, 2004; Yen K, 1992)

Marigold flower (Calendula officinalis) 5:1 extract (equivalent to 5 mg)
Marigold flower has been used traditionally as an antioxidant for the maintenance of good health; to maintain eyesight in conditions associated with sunlight damage, e.g., cataracts and age-related macular degeneration; and to help relieve inflammatory conditions of the digestive system. (NHPD Monograph)

Cranesbill root (Geranium maculatum)
Cranesbill root has been used traditionally for its astringent properties and is used for diarrhoea, dysentery, and hemorrhoids. Though cranesbill does not have a long history of use, no safety issues should be expected based on the low dose of cranesbill (4mg) provided in this product. (Hoffman, 2003)

Marshmallow root (Althaea officinalis)
Marshmallow root has been used traditionally for mild inflammation of the gastric mucosa. (Blumenthal, 1998)
Aqueous extracts from the roots of Althaea officinalis L. (Malvaceae) are widely used for treatment of irritated mucosa. The clinical proven effects are related to the presence of bioadhesive and mucilaginous polysaccharides, leading to the physical formation of mucin-like on top of the irritated tissues. (Deters et al, 2010)

Ingredient Summary:

- L-Glutamine**
 - L-Glutamine is a minor supportive ingredient contributing to digestive health.
- Turmeric rhizome (Curcuma longa) 4:1 extract (equivalent to 200 mg)**
 - Supports a healthy intestinal lining
- Amylase (Aspergillus oryzae) (417 DU)**
 - Turmeric is provided at a sub-therapeutic dose and provides a minor supportive role to the primary Golden seal herb.
- Goldenseal root & rhizome (Hydrastis canadensis) 4:1 extract (equivalent to 760 mg)**
 - Provides Goldenseal traditionally used in Herbal Medicine to help alleviate infectious and inflammatory conditions of the digestive tract such as gastritis.
 - Provides Goldenseal traditionally used in Herbal Medicine as a bitter to aid digestion and to increase appetite (stomachic).
 - Provides Goldenseal traditionally used in Herbal Medicine to help relieve digestive disturbances such as dyspepsia.
- N-Acetyl-D-Glucosamine**
 - N-Acetyl-D-Glucosamine is a minor supportive ingredient contributing to digestive health.
- Gamma Oryzanol (from rice grain)**
 - Gamma Oryzanol is a minor supportive ingredient contributing to digestive health.

The following herbs are only supportive herbs in the product formula:

- Ginger root (rhizome) (Zingiber officinale) 4:1 extract (equivalent to 100 mg)**
 - Ginger root has been shown clinically to help prevent nausea and vomiting associated with motion sickness and/or seasickness.
- Capillary Artemisia herb (Artemisia capillaris) 12:1 extract (equivalent to 120 mg)**
 - Capillary artemisia has been used traditionally to clear heat, resolve dampness, and reduce jaundice.
- Bai-zhu Atractylodes rhizome (Atractylodes macrocephala) 12:1 extract (equivalent to 85.2 mg)**
 - Bai-zhu atractylodes rhizome has been used traditionally for spleen vacuity with fullness and distension.
- Codonopsis root (Codonopsis pilosula) 12:1 extract (equivalent to 66 mg)**
 - Codonopsis root has been used traditionally as a tonic for the lungs and spleen, and to increase energy levels in general tonic formulas for anorexia, asthma, chronic diarrhea, cough, diabetes, dyspnea, vomiting, and palpitations.
- Schisandra berry (Schisandra chinensis) 12:1 extract (equivalent to 66 mg)**
 - Schisandra berry has been used traditionally as a kidney tonic and lung astringent, for the treatment of asthma, coughs, insomnia, neurasthenia, diarrhea, and dysentery.
- Job's Tears seed (Coix lacryma-jobi) 12:1 extract (equivalent to 66 mg)**
 - Job's Tears seed facilitates the resolution of dampness and strengthens the spleen.
- Chinese Thoroughwax root (Bupleurum chinense) 12:1 extract (equivalent to 43.2 mg)**
 - Chinese Thoroughwax root has been used traditionally for hepatitis, cirrhosis, and other conditions associated with inflammation.
- Psyllium seed (Plantago asiatica) 12:1 extract (equivalent to 43.2 mg)**
 - Psyllium seed is used as bulk-forming laxative to promote bowel movement by increasing bulk volume and water content, for the gentle relief of constipation and/or irregularity.
- Poria sclerotium (Poria cocos) 12:1 extract (equivalent to 43.2 mg)**
 - Poria sclerotium has been used traditionally for urinary difficulty, diarrhea or edema due to stagnation of fluids or dampness, and spleen deficiency.
- Magnolia bark (Magnolia officinalis) 12:1 extract (equivalent to 43.2 mg)**
 - Magnolia bark has been used traditionally for reducing and eliminating abdominal distention and fullness, reducing phlegm, calm wheezing; and for nausea and diarrhea.
- Phellodendron bark (Phellodendron amurense) 12:1 extract (equivalent to 43.2 mg)**
 - Phellodendron bark has been used traditionally for heat dysentery and diarrhoea.
- Chinese Giant Hyssop aerial parts (Agastache rugosa) 12:1 extract (equivalent to 43.2 mg)**
 - Chinese Giant Hyssop has been used traditionally for vomiting and diarrhoea, dysenteric disease, and to dispel middle burner turbid dampness.
- Ginger root (rhizome) (Zingiber officinale) 12:1 extract (equivalent to 43.2 mg)**
 - Ginger root has been used traditionally to help relieve digestive upset/disturbances including lack of appetite, nausea, digestive spasms, indigestion, dyspepsia and flatulent colic.
- Chinese Ash Branch bark (Fraxinus chinensis) 12:1 extract (equivalent to 43.2 mg)**
 - Chinese Ash Branch bark has been used traditionally for fevers, and as a diuretic, antiseptic, and appetite stimulant.
- Chinese Licorice root (Glycyrrhiza uralensis) 12:1 extract (equivalent to 43.2 mg)**
 - Chinese licorice root has been used traditionally to tonify the spleen and augment qi; commonly used for spleen deficiency with shortness of breath, lassitude, and loose stools.
- Chinese Peony root (Paeonia lactiflora) 12:1 extract (equivalent to 28.8 mg)**
 - Chinese peony root has been used traditionally to calm and curb the liver yang and to alleviate pain; for symptoms such as flank, chest or abdominal pain from either constrained liver qi or disharmony between the liver and spleen.
- Tangerine peel (Citrus reticulata) 12:1 extract (equivalent to 28.8 mg)**
 - Tangerine peel has been used traditionally to promote liver qi and the function of the digestive system.
- Siler root (Ladebouriella seseloides) 12:1 extract (equivalent to 28.8 mg)**
 - Siler root has been used traditionally for wind disorders; to treat dampness, diarrhoea, and pain in the bowels.
- Chinese Goldthread rhizome (Coptis chinensis) 12:1 extract (equivalent to 28.8 mg)**
 - Chinese Goldthread rhizome has been used traditionally to clear heat and drain dampness in the stomach or intestines.
- Costus root (Saussurea lappa) 12:1 extract (equivalent to 28.8 mg)**
 - Costus root has been used traditionally to promote the flow of qi, stop pain, strengthen the spleen, and eliminate food stagnation and fullness in the chest and abdomen.
- Fragrant Angelica root (Angelica dahurica) 12:1 extract (equivalent to 19.2 mg)**
 - Fragrant Angelica root has been used traditionally most often in combination with other herbs as a component of formulas for liver qi stasis and spleen deficiency.
- Marigold flower (Calendula officinalis) 5:1 extract (equivalent to 5 mg)**
 - Marigold flower is provided at a sub-therapeutic dose and provides a minor supportive role to the primary Golden seal herb.
- Cranesbill root (Geranium maculatum)**
 - Cranesbill root is provided at a sub-therapeutic dose and provides a minor supportive role to the primary Golden seal herb.
- Marshmallow root (Althaea officinalis)**
 - Marshmallow root is provided at a sub-therapeutic dose and provides a minor supportive role to the primary Golden seal herb.

References

- Bensky D, Clavey S, Stüger E. Chinese Herbal Medicine: Materia Medica. 3rd ed. Seattle: Eastland Press; 2004.
- Blumenthal M, editor. The Complete German Commission E Monographs: Therapeutic Guide to Herbal Medicines. Austin: American Botanical Council; 1998.
- Burton AF, Anderson FH. Decreased incorporation of 14C-glucosamine relative to 3H-N-acetyl glucosamine in the intestinal mucosa of patients with inflammatory bowel disease. Am J Gastroenterol. 1983 Jan;78(1):19-22.
- Deters A, Zippel J, Hellenbrand N, Pappi D, Possenmeyer C, Hensel A. Aqueous extracts and polysaccharides from Marshmallow roots (Althaea officinalis L.): cellular internalisation and stimulation of cell physiology of human epithelial cells in vitro. J Ethnopharmacol. 2010 Jan 8;127(1):62-9.
- Goel A, Kunnumakara AB, Aggarwal BB. Curcumin as "Curcumin": from kitchen to clinic. Biochem Pharmacol. 2008 Feb 15;75(4):787-809.
- Gurley BJ, Swain A, Barone GW, Williams DK, Breen P, Yates CR et al. Effect of goldenseal (Hydrastis canadensis) and kava kava (Piper methysticum) supplementation on digoxin pharmacokinetics in humans. Drug Metab Dispos. 2007 Feb;35(2):240-5.
- Gurley BJ, Swain A, Hubbard MA, Hartsfield F, Thaden J, Williams DK, et al. Supplementation with goldenseal (Hydrastis canadensis), but not kava kava (Piper methysticum), inhibits human CYP3A activity in vivo. Clin Pharmacol Ther. 2008 Jan;83(1):61-9.
- Hama H, Iida T, Takeuchi K, Watanabe F, Maruyama Y, Andoh A, et al. Curcumin maintenance therapy for ulcerative colitis: randomized, multicenter, double-blind, placebo-controlled trial. Clin Gastroenterol Hepatol. 2006 Dec;4(12):1502-6.
- Hoffmann D. Medical Herbalism - The Science and Practice of Herbal Medicine. Vermont: Healing Arts Press; 2003.
- Islam MS, Murata T, Fujisawa M, Nagasaka R, Ushio H, Bari AM, et al. Anti-inflammatory effects of phytoestrogen ferulic acid in colitis induced by dextran sulphate sodium in mice. Br J Pharmacol. 2008 Jun;154(4):812-24.
- Li Y, Ping X, Yu B, Liu F, Ni X, Li J. Clinical trial: prophylactic intravenous alanyl-L-glutamine reduces the severity of gastrointestinal toxicity induced by chemotherapy-a randomized crossover study. Aliment Pharmacol Ther. 2009 Sep 13;30(5):452-8.
- Mizushima T, Semba T. Effects of gamma-oryzanol on the movements of stomach and ileum in the dog (author's transl). Nippon Heikatsukin Gakkai Zasshi 1980;16(1):47-55.
- Newall C, Anderson L, Phillipson J. Herbal Medicines: A Guide for Health-care Professionals. London: The Pharmaceutical Press; 1996.
- Newsholme P, Procopio J, Lima MM, Pithon-Curi TC, Curi R. Glutamine and glutamate—their central role in cell metabolism and function. Cell Biochem Funct 2003 Mar;21(1):1-9.
- NHPD Monograph Ginger [Online]. 2008 01 18 [cited 2010 April]. Available from: http://www.hc-sc.gc.ca/dhpm/alt_formats/hpb-dgpsa/pdf/prodnatur/moно_ginger-gingembre-eng.pdf
- NHPD Monograph Goldenseal [Online]. 2010 01 11 [cited 2010 April]. Available from: http://www.hc-sc.gc.ca/dhpm/alt_formats/hpb-dgpsa/pdf/prodnatur/moно_goldenseal-hydraste-eng.pdf
- NHPD Monograph L-Glutamine [Online]. 2008 02 11 [cited 2010 April]. Available from: http://www.hc-sc.gc.ca/dhpm/alt_formats/hpb-dgpsa/pdf/prodnatur/moно_lglutamine-eng.pdf
- NHPD Monograph Marigold Flower [Online]. 2008 01 25 [cited 2010 April]. Available from: <http://webprod.hc-sc.gc.ca/hpb-dgpsa/monographs/eng/4128lang-eng>
- NHPD Monograph Psyllium [Online]. 2009 08 04 [cited 2010 April]. Available from: http://www.hc-sc.gc.ca/dhpm/prodnatur/applications/licen-prod/monograph/moно_psyllium-eng.php
- NHPD Monograph Turmeric [Online]. 2010 02 25 [cited 2010 April]. Available from: http://www.hc-sc.gc.ca/dhpm/alt_formats/hpb-dgpsa/pdf/prodnatur/moно_turmeric-curcuma-eng.pdf
- PRC 2005. Pharmacopoeia of the People's Republic of China. English Edition, Volume 1. Compiled by The State Pharmacopoeia of the People's Republic of China. Beijing (China): Chemical Industry Press; 2005.
- Salvatore S, Heuschkel R, Tomlin S, Davies SE, Edwards S, Walker-Smith JA, et al. A pilot study of N-acetylglucosamine, a nutritional substrate for glycosaminoglycan synthesis, in paediatric chronic inflammatory bowel disease. Aliment Pharmacol Ther. 2000 Dec;14(12):1567-1579.
- Wu KL, Rayer CK, Chuah SK, Changchien CS, Lu SN, Chiu YC, et al. Effects of ginger on gastric emptying and motility in healthy humans. Eur J Gastroenterol Hepatol. 2008 May;20(5):436-40.
- Yen K. The Illustrated Chinese Materia Medica: Crude and Prepared. Taipei: SMS Publishing; 1992.