Bio Detox GHI

Clinical Applications

- Supports Natural Detoxification Mechanisms*
- Supports Gastrointestinal Health*
- Supports a Balanced Cytokine Profile*
- Lactose-Free Vegan Protein*

Bio Detox GHI *is a comprehensive, fructose-free, low-allergy–potential dietary supplement designed to support gastrointestinal (GI) function and balanced detoxification. It features Vegan Protein Blend, 3rd Opinion Inc's proprietary amino acid and pea/rice protein blend; Aminogen®, to facilitate protein absorption; phytonutrients; mineral amino acid chelates; and activated B vitamins, including Quatrefolic®† and methylcobalamin. In conjunction with a modified elimination diet, Bio Detox GHI addresses GI and hepatic function as well as eicosanoid balance and cytokine metabolism. This formula is suitable for vegans.**

All 3rd Opinion Inc Formulas Meet or Exceed cGMP Quality Standards

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Discussion

Bio Detox GHI contains macro- and micronutrients, as well as a host of ingredients (some patented or proprietary) that support fatty acid metabolism, gastrointestinal health, and healthy eicosanoid and cytokine metabolism. Activated cofactors support mitochondrial energy production needed for biotransformation and detoxification. This formula's ingredients help moderate phase I detoxification, upregulate and support phase II pathways, and provide antioxidant support as well.*

Protein Metabolism

Vegan Protein Blend is 3rd Opinion Inc's proprietary blend of pea protein isolate and rice protein concentrate, L-glutamine, glycine, and taurine. Generation of glutathione and sulfation cofactors—vital for phase II conjugation—requires an array of amino acids. The combination of pea protein and rice protein, containing a complement of amino acids, achieves an amino acid score of 100%. Glutamine, a conditionally essential and versatile amino acid with two nitrogen moieties, is crucial to nitrogen metabolism and helps maintain healthy liver tissue and function.[1,2] The amino acid glycine is needed for bile synthesis, phase II detoxification, and glutathione production. Taurine, a derivative of the sulfur-containing amino acid cysteine, is also important for synthesis of bile salts and helps stabilize cell membranes.*

Gastrointestinal Support

Ginger root, included to support healthy digestion including the release of bile from the gallbladder, acts at several sites to moderate PGE(2) production and support the normal response to inflammation.[3] Fiber (from inulin and flaxseeds) supports production of short-chain fatty acids as well as a healthy intestinal flora. **MeadowPure™**, an organic flaxseed complex, possesses excellent oxidative stability, supports antioxidant activity, and provides lignins, soluble fiber, and omega-3 and omega-6 essential fatty acids.[4] **Glutamine** plays a key role in healthy intestinal cell proliferation and gut barrier integrity, immune function, and normal tissue healing.*[1,2]

Detoxification Support

Ellagic acid (from pomegranate extract) prevents over-induction of CYP1A enzymes, works at the gene level to induce synthesis of glutathione-S-transferases and other phase II activities, binds directly to toxins, and protects DNA and hepatocytes.[5,6] **Watercress** is a rich source of beta-phenylethyl isothiocyanate (PEITC)—a versatile compound found to inhibit phase I enzymes and induce the phase II enzymes associated with biotransformation and excretion of toxins. Watercress was found to contain even stronger phase II inducers known as 7-methylsulfinyheptyl and 8-methylsulfinyloctyl isothiocyanates as well.[7,8] **Green tea catechins** not only support antioxidant activity but also appear to act as modulators of phase I and phase II detoxification.[9] **Choline** is present to support lipid metabolism in the liver and can be converted to betaine, a methyl donor.*[10]

The active, bioavailable form of **B vitamins** (pyridoxal-5'-phosphate (B6), 5-methyltetrahydrofolate (folate), methylcobalamin (B12)) and glycine all support amino acid conjugation and are vital for the detoxification of xenobiotics and xenoestrogens. 5-methyltetrahydrofolate (5-MTHF), methylcobalamin, betaine, and **methylsulfonylmethane** (MSM) are present to support methylation and detoxification. 5-MTHF supports healthy folate nutrition, especially in those with variations in folate metabolism. In Bio Detox GHI, 5-MTHF is provided as Quatrefolic® for enhanced stability, solubility, and bioavailability.*[11]

Preventium®, a patented form of potassium hydrogen d-glucarate, supports glucuronidation. Sulfation is supported by **MSM** and **sodium sulfate**. Acetylation is supported by **d-calcium pantothenate**, pyridoxal-5'-phosphate, and magnesium. Several minerals in Bio Detox GHI are provided as Albion® mineral chelates and TRAACS® mineral amino acid chelates for enhanced gastrointestinal absorption and bioavailability.*[12]

Antioxidant Support and Cytokine Balance

Bioflavonoids, quercetin, rutin, and **curcumin** support antioxidant activity, counter free radicals, and support healthy eicosanoid and cytokine metabolism.[13,14] Curcumin has a long history of use for its support of a normal, healthy response to inflammation.[15] **N-acetyl-cysteine (NAC)** stimulates glutathione synthesis, enhances glutathione-S-transferase activity, and promotes detoxification.[16] **Selenium glycinate** provides support for glutathione metabolism and antioxidant protection.*

Bio Detox GHI provides an array of nutrients that supports gastrointestinal health; detoxification and antioxidant mechanisms; and a normal, healthy response to inflammation and cytokine balance. This formula is designed to be used as part of a step-approach cleanse in conjunction with a modified elimination plan.*

Bio Detox GHI

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Chocolate

Supplement Facts

Serving Size: 2 Scoops (about 62 g)
Servings Per Container: About 14

Amount Per Serving		%Daily Value‡
Calories 240		
Calories from Fat 80		
Total Fat 9 g		14%
Saturated Fat 2.5 g		13%
Total Carbohydrate 18 g		6%
Dietary Fiber 6 g		24%
Sugars 5 g		**
Protein 26 g		52%
Vitamin A (as natural beta-carotene)	2500 IU	50%
Vitamin C (as sodium ascorbate)	250 mg	417%
Thiamin (as thiamine HCl)	15 mg	1000%
Riboflavin (as riboflavin 5'-phosphate sodium)	5 mg	294%
Niacin (as niacinamide and niacin)	40 mg	200%
Vitamin B6 (as pyridoxal 5'-phosphate)	5 mg	250%
Folate (as Quatrefolic® (6S)-5-methyltetrahydrofolic acid, glucosamine salt)	200 mcg	50%
Vitamin B12 (as methylcobalamin)	50 mcg	833%
Biotin	150 mcg	50%
Pantothenic Acid (as d-calcium pantothenate)	35 mg	350%
Calcium (as DimaCal® di-calcium malate and ingredients with naturally occurring calcium)	260 mg	26%
Iron (naturally occurring)	8 mg	44%
Iodine (as potassium iodide)	60 mcg	40%
Magnesium (as Albion® di-magnesium malate)	140 mg	35%
Zinc (as TRAACS® zinc bisglycinate chelate)	10 mg	67%
Selenium (as Albion® selenium glycinate complex)	100 mcg	143%
Manganese (as TRAACS® manganese bisglycinate chelate)	2 mg	100%
Chromium (as TRAACS® chromium nicotinate glycinate chelate)	60 mcg	50%
Molybdenum (as TRAACS® molybdenum glycinate chelate)	35 mcg	47%
Sodium (naturally occurring)	500 mg	21%
Potassium (naturally occurring)	520 mg	15%
MeadowPure® Stabilized Flaxseed Complex	5.6 g	**
Alpha-Linolenic Acid	1.28 g	**
Linoleic Acid	392 mg	**
Pomegranate Extract (*Punica granatum*)(hull)(40% ellagic acid)	400 mg	**
Betaine Anhydrous (trimethylglycine)	250 mg	**
Lemon Bioflavonoid Complex (*Citrus × limon*) (fruit peel)(25% bioflavonoids)	250 mg	**
Quercetin (as quercetin dihydrate from *Dimorphandra mollis*)(pod)	250 mg	**
Preventium® (potassium d-glucarate)	250 mg	**
Rutin (from *Sophora japonica*)(bud)	200 mg	**
Turmeric Extract (*Curcuma longa*)(rhizome) (95% curcuminoids)	200 mg	**
N-Acetyl-L-Cysteine	150 mg	**
Ginger (*Zingiber officinale*)(rhizome)	150 mg	**
Methylsulfonylmethane (MSM)	120 mg	**
Choline (as choline bitartrate)	100 mg	**
Sodium Sulfate Anhydrous	100 mg	**
Watercress (*Nasturtium officinale*)(herb)	100 mg	**
Green Tea Aqueous Extract (*Camellia sinensis*)(leaf) (80% polyphenols, 60% catechins, 30% EGCG, 6% caffeine)	82 mg	**

‡ Percent Daily Values are based on a 2,000 calorie diet.
** Daily Value not established.

Other Ingredients: Vegan Protein Blend (Starr Walker's proprietary blend of pea protein concentrate, pea protein isolate, taurine, glycine, rice protein concentrate, and L-glutamine), dried cane syrup, cocoa powder, natural flavors (no MSG), sunflower oil, medium-chain triglyceride oil, tripotassium citrate, cellulose gum, xanthan gum, Aminogen®, stevia leaf extract, guar gum, and silica.

Directions

Blend, shake, or briskly stir 2 level scoops (62 g) into 10-12 ounces chilled, pure water (or mix amount for desired thickness) and consume once daily, or use as directed by your healthcare practitioner.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner. Do not use if tamper seal is damaged. The labeling on this product does not comply with California's Proposition 65. Therefore, this product may not be sold in California.

Does Not Contain

Wheat, gluten, yeast, soy, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

Typical Amino Acid Profile Per Serving:

Alanine	1,129 mg	Methionine	279 mg
Arginine	2,260 mg	Phenylalanine	1,432 mg
Aspartic Acid	3,049 mg	Proline	1,141 mg
Cysteine	248 mg	Serine	1,404 mg
Glutamic Acid	4,450 mg	Threonine	981 mg
Glycine	1,578 mg	Taurine	500 mg
Histidine	652 mg	Tryptophan	258 mg
Isoleucine	1,214 mg	Tyrosine	1,005 mg
Leucine	2,208 mg	Valine	1,317 mg
Lysine	1,910 mg		

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