

INFLAMMA · SHAKE

CHOCOLATE MINT

health·ology
by Dr. Jen



CLINICAL APPLICATIONS

- Maintains Normal Inflammatory Balance
- Strengthens GI Barrier Function
- Boosts Immune Function
- Provides Key Nutrients for Cell Replication
- Increases Antioxidant Protection

GASTROINTESTINAL SUPPORT

This product is an advanced nutritional formula built to address immune challenges, maintain normal inflammatory balance and strengthen gastrointestinal barrier function. This product is a fructose-free formula featuring 19 g of easy-to-digest brown rice protein per serving and soothing, flax-based fiber. In addition, this product provides high amounts of L-glutamine and glycine, amino acids crucial for intestinal reinforcement and mucosal cell regeneration.

Overview

Inflammation is a natural part of the body's immune response, a cascade triggered to protect the body and maintain normal tissue repair. Acute inflammation is the body's initial response to harmful stimuli in which plasma and immune cells are relocated from the blood into injured tissues. This movement is followed by a cascade of biochemical events which advance the normal inflammatory response. It is essential to maintain normal inflammatory balance and normal tissue repair to achieve optimal health.

Turmeric (Complete Turmeric Matrix)[†]

Whole-root turmeric and its active components have been used in traditional Ayurvedic medicine for centuries. In herbal medicine of old, practitioners used teas, tinctures and extracts of all types. In the 21st century, as research grew on the benefits of turmeric, the focus shifted to identifying and isolating one individual compound, curcumin, rather than delivering the comprehensive benefits of a matrix of turmeric bioactives. As a result, concentrating curcumin led to poor absorption and pharmaceutical methods were applied to bypass the gut and increase its bioavailability. The glaring disadvantage of applying this pharmaceutical model to botanicals is that it misses the

benefits of other bioactives present within the turmeric matrix and their positive effects on the microbiome. New research on turmeric shows these bioactives have additional benefits and enhance bioavailability. The Complete Turmeric Matrix includes compounds from the entire turmeric root, all working together as nature intended to deliver better results. The Complete Turmeric Matrix formulation contains standardized amounts of 45%–55% curcuminoids, 2%-6% turmerin protein and 3%-8% volatile oil, plus other components that make up the whole turmeric root. This matrix of bioactive compounds supports a healthy GI tract, creates a healthy microbiome, and helps maintain normal inflammatory balance.

Studies have shown that turmeric and its phytonutrients, like curcumin, specifically maintain normal inflammatory balance in the most significant GI challenges.^{1,2} Curcumin has been found to both promote GI mucosal health and help reduce stomach lining discomfort.³ It provides antioxidant protection in the cardiovascular system.⁴ Curcumin has also been shown to improve mood imbalances and adrenal fatigue by supporting a normal immune response and reducing oxidative stress and intestinal permeability.⁵

Green Tea Extract (EGCg)[†]

Green tea, used for centuries as a health tonic, is a potent antioxidant and is effective for maintaining normal inflammatory balance. Its most researched active component, EGCg, has been repeatedly shown to protect against free radical damage and balance markers of inflammation. EGCg has been found to block NFkB activity and supports cardiovascular health by interfering with free radical generation in macrophages.⁶ In studies, green tea has been shown to reduce histamine-producing cells⁷

[†] 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.

and maintain normal inflammatory balance. It has also been shown to inhibit key enzyme pathways involved in eicosanoid production, which play a key role in joint health.⁸

Arabinogalactan†

Larch arabinogalactan is a fermentable polysaccharide fiber from the larch tree that promotes optimal immune health by supporting the growth of beneficial gut flora and strengthening the activity of NK cells.⁹ It has been found to minimize ammonia synthesis and absorption, enhance production of short-chain fatty acids and increase the population of beneficial gut microflora. In one placebo-controlled, double-blind, randomized trial, arabinogalactan was found to boost immune activity and support upper respiratory health.¹⁰

Skullcap Root Extract†

This popular Chinese botanical has been shown to maintain normal inflammatory balance and support cardiovascular health.¹¹ Skullcap possesses potent antioxidant properties. Research has shown it attenuates NFκB and inhibits COX-2 expression.¹³ It also supports healthy respiratory function by protecting airways and protecting mitochondrial function.¹²

Quercetin†

A flavonoid found in a variety of botanicals, vegetables and fruits, quercetin is a potent antioxidant that inhibits inducible ICAM-1 expression, an important pathway for maintaining normal inflammatory balance.¹³ It has also been shown to enhance epithelial barrier function in the intestines¹⁴ by stabilizing mast cells through the release of cell-protective factors. In addition, quercetin has been shown to promote the balanced release of inflammatory mediators from mast cells.¹⁵

Glutamine and Glycine†

Amino acids L-glutamine and glycine are essential for healthy gut mucosa and normal tissue repair. Numerous studies have shown these amino acids to be soothing to the GI lining.¹⁶ The amino acid L-glutamine have been associated with better immune response, stronger intestinal wall lining and higher antioxidant capacity.¹⁷ Recent research also highlights the synergistic role between these amino acids and a healthy balance of probiotic bacteria in the GI tract.¹⁸

Vitamin D†

One of the key functions of vitamin D is its ability to tighten gap junctions in the intestinal lining to create a strong barrier that protects the body from foreign substances. Recent research suggests that improving vitamin D status significantly affects the expression of genetic pathways linked to immune activity.¹⁹ Vitamin D up-regulates specific genes that increase cellular production of natural compounds that play a major protective role in the immune system.²⁰ Higher blood levels of

vitamin D have been shown to enhance immune function and soothe tissues of the GI tract.²¹

Directions

Mix 2 scoops of this product with 8-10 ounces of the beverage of your choice to the desired thickness, once daily or as recommended by your health care professional.

Does Not Contain

Gluten, yeast, artificial colors, and flavors.

Cautions

If you are pregnant or nursing, consult your physician before taking this product. This product contains corn.

Supplement Facts ^{v4}		
Serving Size 2 Scoops (52.8 Grams)		
Servings Per Container About 14		
	Amount Per Serving	% Daily Value
Calories	210	
Total Fat	7 g	9%*
Saturated Fat	3 g	15%*
Total Carbohydrate	14 g	5%*
Dietary Fiber	5 g	18%*
Total Sugars	8 g	**
Includes 6 g Added Sugars		12%*
Protein	19 g	38%*
Vitamin D (D3 as Cholecalciferol)	50 mcg (2,000 IU)	250%
Calcium	30 mg	2%
Iron	2 mg	11%
Sodium	50 mg	2%
Potassium	250 mg	5%
Proprietary Blend	28.5 g	
Rice Protein		**
Flaxseed Flour		**
L-Glutamine USP	2.5 g	**
Medium Chain Triglycerides	1.5 g	**
Alpha Linolenic Acid (from Flaxseed Flour)	1.3 g	**
Arabinogalactan Heartwood (from Larch Tree)	1 g	**
L-Lysine Hydrochloride USP	750 mg	**
Glycine USP	500 mg	**
L-Proline USP	500 mg	**
Quercetin Dihydrate	250 mg	**
Chinese Skullcap (<i>Scutellaria baicalensis</i>) Root Extract (Standardized to contain 30% Flavonoids)	250 mg	**
Turmeric Root Extract (Complete Turmeric Matrix) (Standardized to contain 45-55% Curcuminoids, 3-8% Volatile Oil, 2-6% Turmerin)	250 mg	**
Propolis Extract	200 mg	**
Ginger Root Extract (Standardized to contain 5% Gingerols)	100 mg	**
Green Tea Leaf Extract (Standardized to contain 45% EGCg (Epigallocatechin gallate))	100 mg	**
Rosemary Leaf Extract	100 mg	**

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

† 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.

References

1. Kumar S, Ahuja V, Sankar MJ, Kumar A, Moss AC. Curcumin for maintenance of remission in ulcerative colitis. *Cochrane Database Syst Rev.* 2012 Oct 17;10:CD008424.
2. Baliga MS, Joseph N, Venkataranganna MV, Saxena A, Ponemone V, Fayad R. Curcumin, an active component of turmeric in the prevention and treatment of ulcerative colitis: preclinical and clinical observations. *Food Funct.* 2012 Nov;3(11):1109-17.
3. Bengmark S, Mesa MD, Gil A. Plant-derived health: the effects of turmeric and curcuminoids. *Nutr Hosp.* 2009 May-Jun;24(3):273-81.
4. Kapakos G, Youreva V, Srivastava AK. Cardiovascular protection by curcumin: molecular aspects. *Indian J Biochem Biophys.* 2012 Oct;49(5):306-15.
5. Lopresti AL, Hood SD, Drummond PD. Multiple antidepressant potential modes of action of curcumin: a review of its anti-inflammatory, monoaminergic, antioxidant, immune-modulating and neuroprotective effects. *J Psychopharmacol.* 2012 Dec;26(12):1512-24.
6. Li M, Liu JT, Pang XM, Han CJ, Mao JJ. Epigallocatechin-3-gallate inhibits angiotensin II and interleukin-6-induced C-reactive protein production in macrophages. *Pharmacol Rep.* 2012 Jul;64(4):912-8.
7. Melgarejo E, Medina MA, Sánchez-Jiménez F, Urdiales JL. Targeting of histamine producing cells by EGCG: a green dart against inflammation? *J Physiol Biochem.* 2010 Sep;66(3):265-70.
8. Singh R, Akhtar N, Haqqi TM. Green tea polyphenol epigallocatechin-3-gallate: inflammation and arthritis. *Life Sci.* 2010 Jun 19;86(25-26):907-18.
9. Kelly GS. Larch arabinogalactan: clinical relevance of a novel immune-enhancing polysaccharide. *Altern Med Rev.* 1999 Apr;4(2):96-103.
10. Riede L, Grube B, Gruenwald J. Larch arabinogalactan effects on reducing incidence of upper respiratory infections. *Curr Med Res Opin.* 2013 Mar;29(3):251-8.
11. Li-Weber M. New therapeutic aspects of flavones: the anticancer properties of Scutellaria and its main active constituents Wogonin, Baicalein and Baicalin. *Cancer Treat Rev.* 2009 Feb;35(1):57-68.
12. Mabalirajan U, Ahmad T, Rehman R, Leishangthem GD, Dinda AK, Agrawal A, Ghosh B, Sharma SK. Baicalein reduces airway injury in allergen and IL-13 induced airway inflammation. *PLoS One.* 2013 Apr 30;8(4):e62916.
13. Bito T, Roy S, Sen CK, et al. Flavonoids differentially regulate IFN gamma-induced ICAM-1 expression in human keratinocytes: molecular mechanisms of action. *FEBS Lett.* 2002 Jun 5;520(1-3):145-52.
14. Amasheh M, Schlichter S, Amasheh S, Mankertz J, Zeitz M, Fromm M, Schulzke JD. Quercetin enhances epithelial barrier function and increases claudin-4 expression in Caco-2 cells. *J Nutr.* 2008 Jun;138(6):1067-73.
15. Penissi AB, Rudolph MI, Piezzi RS. Role of mast cells in gastrointestinal mucosal defense. *Biocell.* 2003 Aug;27(2):163-72.
16. Wang WW, Qiao SY, Li DF. Amino acids and gut function. *Amino Acids.* 2009 May;37(1):105-10.
17. Bonet A, Grau T. [Glutamine, an almost essential amino acid in the critically ill patient]. *Med Intensiva.* 2007 Oct;31(7):402-6.
18. Dai ZL, Wu G, Zhu WY. Amino acid metabolism in intestinal bacteria: links between gut ecology and host health. *Front Biosci.* 2011 Jan 1;16:1768-86.
19. Hossein-nezhad A, Spira A, Holick MF. Influence of vitamin D status and vitamin D3 supplementation on genome wide expression of white blood cells: a randomized double-blind clinical trial. *PLoS One.* 2013;8(3):e58725.
20. Cannell JJ, Vieth R, Umhau JC, Holick MF, Grant WB, Madronich S, Garland CF, Giovannucci E. Epidemic influenza and vitamin D. *Epidemiol Infect.* 2006 Dec;134(6):1129-40.
21. Pappa HM, Grand RJ, Gordon CM. Report on the vitamin D status of adult and pediatric patients with inflammatory bowel disease and its significance for bone health and disease. *Inflamm Bowel Dis.* 2006 Dec;12(12):1162-74.