

TOTAL PROTECT

Ingredients: Each tablet supplies: Soy Isoflavones 40.80% (Genistin 6.34%, Genistein 6.34%, Daidzin 8.52%, Daidzein 17.43%, Glycitin 1.10%, Glycitein 1.09%) 48mg, DIM (Diindolylmethane) 24mg, Indole-3-Carbinol 23.5mg, Cordyceps 25mg, Lactoferrin 7mg, Artemesia (Yin Chen Hao) 25mg, Artemesia (Qing Hao) 25 mg, Organic Cauliflower Sprouts 5mg, Organic Broccoli Sprouts 5mg (7500 ppm/gm Sulphoraphane), Betaine HCL 5mg

Supportive Function: This formula provides comprehensive nutritional support for a healthy immune system. An array of powerful phytochemicals facilitate the detoxification of harmful substances both by supporting phase I liver detox (cytochrome P450 system), and also phase 2 liver detox (conjugation)

When is phytochemical support helpful? Challenged immune systems, cancer support, intense support of toxic clearance, protection against toxic insult and tissue damage.

Clinical Applications/Research: Soy Isoflavones (Genistin, Genistein, Daidzin, Daidzein, Glycitin, Glycitein) are found in abundance in the traditional diets of populations of Africans and Asians who experience very few menopause symptoms, very few transitional problems through menopause, low incidence of cardiovascular disease, colon, breast, and prostate cancer. Average intake of isoflavonoids in traditional diets are estimated at 27.8mg of (daidzein 12.02, glycitein 2.3mg, and genistein 13.48mg) per day. In a study of 177 postmenopausal women, genistin and daidzin significantly reduced symptoms of hot flashes. Daidzin, genistin, and glycitin have been shown to significantly prevent bone loss, and lower total cholesterol and triglyceride levels. In an animal study, Genistin and daidzin have been demonstrated to significantly reduce eosinophilia in lung tissue and reduce asthma symptoms. Soy isoflavones have antioxidant properties that help prevent LDL cholesterol oxidation and protect against cell damage in vascular tissues. Soy isoflavones have shown protective actions on bladder cells and protective effects on angiogenic neovasculature without negative effects on normal tissue (Aldercreutz H et al, "Dietary phytoestrogens and the menopause in Japan," (*Lancet* May 1992;339(8803):1233; Aldercreutz et al,) "Urinary excretion of lignans and isoflavonoid phytoestrogens in Japanese men and women consuming a traditional diet," (*Am J of Clin Nutri* 1991; 54(6): 1093-1100; Nakamura Y et al), "Determination of the levels of isoflavonoids in soybeans and soy-derived foods and estimation of isoflavonoids in the Japanese daily intake," (*JAOAC Int* May-Jun 2000;83(3):635-50; Upmalis DH et al), "Vasomotor symptom relief by soy isoflavone extract tablets in postmenopausal women: a multicenter, double-blind, randomized, placebo-controlled study," (*Menopause* Jul-Aug 2000;7(4):213-4; Uesugi T et al), "Comparative study on reduction of bone loss and lipid metabolism abnormality in ovariectomized rats by soy isoflavones, daidzin, genistin, and glycitin," (*Biol Pharm Bull* Apr 2001;24(4):368-72; Regal JF et al), "Dietary phytoestrogens have anti-inflammatory activity in a guinea pig model of asthma," (*Proc Soc Exp Biol Med* Apr 2000;223(4):372-8; Kapiotis S et al), "Genistein, the dietary-derived angiogenesis inhibitor, prevents LDL oxidation and protects endothelial cells from damage by atherogenic LDL," (*Arterioscler Thromb Vasc Biol* Nov 1997;17(11):2868-74; Zhou JR et al), "Inhibition of murine bladder tumorigenesis by soy

isoflavones via alterations in the cell cycle, apoptosis, and angiogenesis,” (*Cancer Res* Nov 1998;15;58(22):5231-8).

DIM (Diindolylmethane) is a normal metabolic product of ingesting indole-3-carbinol from cruciferous vegetables. It has potent chemoprotective effects on the cells and tissues of the larynx, cervix, endometrium, and breast. (Chen DZ et al, “Indole-3-carbinol and diindolylmethane induce apoptosis of human cervical cancer cells and in murine HPV16-transgenic preneoplastic cervical epithelium,” *J Nutr* Dec 2001;131(12):3294-302; Hong C et al), “Bcl-2 family-mediated apoptotic effects of 3,3'-diindolylmethane (DIM) in human breast cancer cells,” (*Biochem Pharmacol* Mar 15 2002;63(6):1085-97; Leong H et al), “Cytostatic effects of 3,3'-diindolylmethane in human endometrial cancer cells result from an estrogen receptor-mediated increase in transforming growth factor-alpha expression,” (*Carcinogenesis* Nov 2001;22(11):1809-17).

Indole-3-Carbinol is a protective phytochemical found in cruciferous vegetables. It is a powerful free-radical scavenger, protects against the potentially damaging chemicals in cigarette smoke, and helps remove them from the body. Indole-3-carbinol protects cells from damage by pesticides. It has hormone balancing and protective effects on the cells and tissues of the larynx, breast, cervix, colon, and liver. Indole-3-carbinol helps improve estrogen metabolism and helps protect estrogen-sensitive tissues. (Chen DZ et al, *Ibid*; Lord RS et al), “Estrogen metabolism and the diet-cancer connection: rationale for assessing the ratio of urinary hydroxylated estrogen metabolites,” (*Altern Med Rev* Apr 2002;7(2):112-29; Arnao MB et al), “Indole-3-carbinol as a scavenger of free radicals,” (*Biochem Mol Biol Int* Aug 1996;39(6):1125-34; Taioli E et al), “Effects of indole-3-carbinol on the metabolism of 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone in smokers,” (*Cancer Epidemiol Biomarkers Prev* Jul 1997;6(7):517-22); Agrawal RC, Mehrotra N, “Assessment of mutagenic potential of propoxur and its modulation by indole-3-carbinol,” (*Food Chem Toxicol* Oct-Nov 1997;35(10-11):1081-4; Xu M et al), “Inhibition of 2-amino-3-methylimidazo[4,5-f]quinoline-DNA adducts by indole-3-carbinol: dose-response studies in the rat colon,” (*Carcinogenesis* Nov 1997;18(11):2149-53; Manson MM et al), “Mechanism of action of dietary chemoprotective agents in rat liver: induction of phase I and II drug metabolizing enzymes and aflatoxin B1 metabolism,” (*Carcinogenesis* Sep 1997;18(9):1729-38).

Cordyceps helps relax bronchial passages, facilitate breathing, and increase blood flow to muscles (Stamets P & C Dusty Wu Yao, “Medicinal Mushrooms,” (*TLfD&P* June 1998:162). Yamaguchi et al, 1990, found that cordyceps was an immune stimulant “Augmentation of various immune activities of tumor-bearing hosts with an extract of *Cordyceps sinensis*,” (*Biotherapy* 2(3):199-205). Liu et al, 1992), showed that cordyceps enhanced Natural Killer Cell activity “Effects of *Cordyceps sinensis* (CS) on *in vitro* natural killer cells,” (*Chung Kuo Chung Hsi I Cheih Ho Tsa Chih* 12(5):267-9,259). Zhou & Lin, 1995), demonstrated that cordyceps could restore normal cellular immunological function “Effect of Jinshubao capsule on the immunological function of 36 patients with advanced cancer,” (*Chung Kuo Chung Hsi I Ho Tsa Chih* Aug: 15(8):476-8).

Lactoferrin helps protect against harmful oxidation, has been reported to stimulate the immune system, has both antibacterial and antiviral properties, promotes protective flora in the gut, and helps regulate iron metabolism. Lactoferrin is one of the body's protective polypeptides, called defensins. Lactoferrin is an iron binding glycoprotein that blocks unfriendly bacteria from obtaining a source of iron. Lactoferrin is found in the products of all exocrine glands located in the gateways of the digestive, respiratory, and reproductive systems, in saliva, tears, nasal secretions, and seminal plasma. In blood, lactoferrin is derived from a special group of white blood cells, the neutrophils (Levay PF,

Viljoen M, "Lactoferrin: a general review," *Haematologica* 1995; 80:252-67; Reiter B), "The biological significance of the non-immunoglobulin protective proteins in milk," (*Developments in Dairy Chemistry*, vol 3, 1985: 281-336).

Artemesia capillaris (Yin Chen Hao) is a traditional Chinese herb rich in protective phytochemicals. Its capillarisin has protective effects against free-radical damage to liver and lung cells. Fifteen protective phytochemical compounds have shown antiplatelet aggregation activity and three other compounds appear to inhibit viral replication. Its scoparone phytochemical compound appears to have an anti-anginal effect, improving coronary blood flow. Artemesia has shown chemoprotective effects on liver cells. (Chu CY), "Protective effects of capillarisin on tert-butylhydroperoxide-induced oxidative damage in rat primary hepatocytes," (*Arch Toxicol* Jun-Jul 1999;73(4-5):263-8; Wu TS et al), "New constituents and antiplatelet aggregation and anti-HIV principles of artemesia capillaris," (*Bioorg Med Chem* Jan 2001;9(1):77-83; Yamahara J et al), "The effect of scoparone, a coumarin derivative isolated from the Chinese crude drug artemisiae capillaris flos, on the heart," (*Chem Pharm Bull* May 1989;37(5):1297-9; Hu YQ), "Apoptosis in human hepatoma cell line SMMC-7721 induced by water-soluble macromolecular components of Artemisia capillaris Thunberg," (*Jpn J Cancer Res* Jan 2000;91(1):113-7).

Artemesia annua (Qing Hao) is a traditional Chinese herb used for treating fever and skin parasites. It contains protective phenolic compounds that quench oxidative free radicals. Artemesia annua's qinghao acid has bacteriostatic properties; its scopoletin component has anti-inflammatory characteristics. Its artemisinin and artesunate components appear to regulate T-cell responses and antibody production to inhibit autoimmune reactions. Artemisinin also seems to inhibit several internal parasites. Its artemisinin and quercetagenin phytochemicals showed significant chemoprotective effects on the body's cells. (Zheng W, Wang SY), "Antioxidant activity and phenolic compounds in selected herbs," (*J Agric Food Chem* Nov 2001;49(11):5165-70; Huang L et al), "Antipyretic and anti-inflammatory effects of Artemesia annua L," (*Zhongguo Zhong Yao Za Zhi*, Jan 1993;18(1):44-8; Zhu Dayuan), "Recent advances on the active components in Chinese medicines," (*Abstracts of Chinese Medicine* 1987; 1(2): 251-266; Zheng GQ), "Cytotoxic terpenoids and flavonoids from Artemesia annua," (*Planta Med* Feb 1994;60(1):54-7).

Organic Cauliflower Sprouts: Cauliflower is a member of the cruciferous family of vegetables, including broccoli, cabbage, radish, kale, mustard, turnip, cress, horseradish, rutabaga, kohlrabi, and Brussels sprouts. Cauliflower sprouts are rich in food enzymes that protect against depletion of the body's own enzymes and reduce stress on the body. The superoxide dismutase (SOD) enzyme in cauliflower protects against cell damage caused by one of the most dangerous free radicals, superoxide. Three-day-old sprouts of cruciferous vegetables contain 10-100 times the protective phytochemical, sulphoraphane, than do mature plants. Cauliflower's high indole component is believed to be responsible for strengthening the immune system, enhancing detoxification, and neutralizing damaging agents in the GI tract. Population studies in Norway show that high consumption of cauliflower and other cruciferous vegetables is linked with low incidence of polyps of the colon. (Carper, 1989:160-1; Balch & Balch, 1997:45; 48; Fahey JW et al), "Broccoli sprouts: an exceptionally rich source of inducers of enzymes that protect against chemical carcinogens," (*Proc Natl Acad Sci U S A* Sep 16 1997; 94(19):10367-72).

Organic Broccoli Sprouts are rich in food enzymes, carotenoids, chlorophyll, indoles, glucosinolates, sulphoraphane, and dithiolthiones. Food enzymes protect against depletion of the body's own enzymes and reduce stress on the body. Population studies

link broccoli consumption with health of the esophagus, stomach, colon, lung, larynx, prostate, oral cavity, and pharynx. Three-day-old sprouts of cruciferous vegetables contain 10-100 times the protective phytochemical, sulphoraphane, than do mature plants. Biochemistry studies show sulphoraphane to be a chemoprotective agent for cells of the GI tract, liver, and breast. A Buffalo, New York study found that broccoli's protective effects rose in a dose-dependent manner: greater consumption was associated with less risk. A 1983 population study suggested that women who ate more broccoli maintained the health of the cervix. (Carper, 1989:146-7; Balch & Balch, 1997:45; 48; Watenberg LW et al), "Inhibition of polycyclic hydrocarbon induced neoplasia by naturally occurring indoles," (*Cancer Research* May 1978; 38(5):1410-13; Graham S et al), "Diet in the epidemiology of cancer of the colon and rectum," (*J of the National Cancer Institute* Sept 1978; 61(3):709-14; Colditz GA et al), "Increased green and yellow vegetable intake in an elderly population," (*Am J of Clin Nutri* Jan 1985; 41(1):32-6; Van Lieshout EM et al), "Effects of dietary anticarcinogens on rat gastrointestinal glutathione S-transferase theta 1-1 levels," (*Carcinogenesis* Nov 1998;19(11):2055-7; Zhang Y, Callaway EC), "High cellular accumulation of sulphoraphane, a dietary anticarcinogen, is followed by rapid transporter-mediated export as a glutathione conjugate," (*Biochem J* May 15 2002;364(Pt 1):301-7; Fahey JW et al, *Ibid*).

Betaine HCL helps digest proteins in the stomach, reduce bacterial colonization of the stomach, and enhance the absorption of minerals and other nutrients.

Suggested Dosage: 1-2 tablets 3 times daily or as directed

Size: 90 tablets

Vegetarian: No

Contraindications: **Use with caution in conjunction with blood-thinning drugs.**