



Breast Assured

Stock #1122-4 (60 capsules)

Breast Assured contains a special blend of herbs and nutrients that have been shown to support and promote breast health by enhancing immune function, providing antioxidant protection, and interacting with estrogen receptors to block the effects of excess estrogen. As an added benefit, Breast Assured may even help reduce menopausal symptoms associated with hormone imbalance. Furthermore, the active ingredients in Breast Assured have been shown to reduce the development and growth of breast cancer in both in vitro and animal studies.

Calcium d-glucarate is the calcium salt of D-glucaric acid, a natural substance found in many fruits and vegetables such as apples and broccoli. Calcium d-glucarate has been shown to provide a protective effect against experimentally-induced cancers, including breast cancer, in animal studies. Research conducted at Memorial Sloan-Kettering Cancer Center in New York indicates that calcium d-glucarate may exert its anti-cancer action, in part, through changing the hormonal environment in the body by facilitating the elimination of

chemical carcinogenic substances and excess hormones such as estrogens.¹⁻⁴

Ellagic acid is a protective phytochemical (plant chemical) found in various vegetables, nuts and fruits, especially pomegranates. Ellagic acid acts as a natural antioxidant to block the effects of damaging free radicals. Free radical damage has been linked to the breaking of DNA single- and double-strands and is considered to be an initial step in several human degenerative diseases, as well as cancer and aging. Recent research has shown that ellagic acid demonstrates potential cancer chemopreventive (disease-preventing) properties. Preliminary research suggests that ellagic acid may help inhibit the development of breast cancer, as well as liver and skin cancer.⁵⁻¹⁰

Maitake mushroom is a medicinal mushroom that enhances immune function by stimulating cell-mediated immunity. In other words, maitake increases the activity of immune cells such as T-cells and natural killer (NK) cells, which have significant cancer-fighting properties. Maitake also enhances production of interleukin-1 (IL-1), which in turn activates T-cells. Maitake does not kill cancer cells directly, but rather activates immune cells that fight the cancer and tumors. In addition, researchers have extensively investigated a powerful active ingredient in maitake, beta-D-glucan (also known as maitake D-fraction), and have found that it stops normal cells from becoming cancerous, helps prevent cancer from spreading (metastasizing), inhibits tumor growth, and even reduces the side effects of chemotherapy.¹¹⁻¹⁴

Kudzu contains unique isoflavones, which are classified as a type of phytoestrogen because of their estrogen-like action in the body. Isoflavones interact with estrogen receptors, providing weak estrogen-like activity, while blocking the effects of excess estrogen. In this way, isoflavones not only provide some of the benefits of estrogenic activity such as helping to prevent cardiovascular disease and osteoporosis (by increasing bone mineral density), but also may reduce the risk of breast and uterine cancer caused by excess estrogen. Plus, according to a review of recent findings, phytoestrogens such as isoflavones are used as a natural alternative to hormone replacement therapy and to reduce menopausal symptoms. Scientific research on the isoflavones found in kudzu has shown that one isoflavone in particular, known as puerarin, triggers cytochrome P450 enzymes 1A1 and 1A2, causing estrogens to be processed through the beneficial C-2-hydroxylation metabolic pathway. In other words, puerarin activates specific detoxification enzymes (cytochrome P450 1A1 and 1A2) to break down estrogens into less harmful substances (metabolites) known as C-2-hydroxylated compounds. By doing so, puerarin causes estrogens to lose much of their estrogenic and cell-proliferating activity, which helps reduce the risk of cancer. Furthermore, kudzu also contains the isoflavones genistein and daidzein. A variety of health benefits have been attributed to these isoflavones, including protection against breast cancer.¹⁵⁻²³

Flax meal is made from ground flax seeds, which are a source of essential fatty acids (EFAs), including alpha-linolenic acid. Research from the *British Journal of Cancer* indicates that alpha-linolenic acid helps inhibit breast cancer, tumor invasiveness and metastasis. Study results confirm that low levels of alpha-linolenic acid are the most important contributor to the proliferation of cancer. These findings are highly significant since the primary cause of death in breast cancer patients is the spread of cancer to other tissues. In addition, flax seeds contain lignans, a type of phytoestrogen. Lignans are converted by intestinal bacteria into powerful cancer-fighting compounds that appear to have similar effects as isoflavones. Flax lignans and lignan precursors have been shown to reduce mammary (breast) tumor development in animal studies and may offer long-term protective effects against tumor development. Lignans can affect tumor growth in several ways: they function as weak estrogens or anti-estrogens to inhibit the effects of estrogen and estrogen-like chemicals; they block the action of enzymes that promote breast cancer cell growth; and, they exhibit antioxidant effects that help reduce cancer development. Such estrogenic effects may explain why flax seeds have been used effectively for reducing and relieving symptoms associated with PMS and menopause. Furthermore, according to a review of recent findings, phytoestrogens such as flax lignans are used as a natural

alternative to hormone replacement therapy and to reduce menopausal symptoms. Lignans may also provide protection against chronic diseases such as hormone-dependent cancers, cardiovascular disease and osteoporosis.^{15,18,21,24-34}

Lutein - High plasma lutein is associated with the increased presence of estrogen receptors in breast cancer cells and, consequently, with greater survival rates and better response to hormone therapy. These findings suggest that plasma lutein concentration may be linked with improved prognosis following diagnosis of breast cancer. Other studies have demonstrated an evident increase in breast cancer risk for decreasing blood levels of lutein, especially in premenopausal women. In addition, a recent animal study confirmed that dietary lutein reduced mammary tumor growth and development, suggesting, for the first time, that lutein is not only capable of inhibiting mammary tumor growth, but possibly of preventing tumor initiation.³⁵⁻³⁸

References:

- ¹Almada, A. "Appliance Of Science." *Functional Foods & Nutraceuticals*; May, 2002.
- ²Abou-Issa H, et. al. "Relative efficacy of glucarate on the initiation and promotion phases of rat mammary carcinogenesis." *Anticancer Research*; 1995, 15(3):805-810.
- ³Heerdt AS, et. al. "Calcium glucarate as a chemopreventive agent in breast cancer." *Israel Journal of Medical Sciences*; 1995, 31(2-3):101-105.
- ⁴Walaszek Z, et. al. "Metabolism, uptake, and excretion of a D-glucaric acid salt and its potential use in cancer prevention." *Cancer Detection and Prevention*; 1997, 21(2):178-190.
- ⁵Stansbury ND, J. "Cancer Prevention Diet." *Nutrition Science News*; August, 1999.
- ⁶Stoner GD, Mukhtar H. "Polyphenols as cancer chemopreventive agents." *Journal of Cellular Biochemistry*; 1995, 22(Suppl):169-180.
- ⁷Festa F, et. al. "Strong antioxidant activity of ellagic acid in mammalian cells in vitro revealed by the comet assay." *Anticancer Research*; 2001, 21(6A):3903-3908.
- ⁸Mindell PhD, E. *Earl Mindell's New Herb Bible*. NY, NY: Fireside, 2000.
- ⁹Smith WA, et. al. "Effect of chemopreventive agents on DNA adduction induced by the potent mammary carcinogen dibenzo[a,h]pyrene in the human breast cells MCF-7." *Mutation Research*; 2001, 480-481:97-108.
- ¹⁰"Phytos At A Glance." *Natural Foods Merchandiser*, January, 2002.
- ¹¹Lieberman PhD, L. & Babal CN, K. *Maitake: King of Mushrooms*. New Canaan, CT: Keats, 1997.
- ¹²Hobbs, LAc, C. *Medicinal Mushrooms*. Loveland, CO: Interweave Press Inc., 1996.
- ¹³Lee PhD, W. & Friedrich PhD, J. *Medicinal Benefits of Mushrooms*. New Canaan, CT: Keats, 1997.
- ¹⁴Nanba, H. Activity of maitake D-fraction to inhibit carcinogenesis and metastasis. *Cancer Prevention—Annals of the New York Academy of Sciences*; 1995, 768:243-245.
- ¹⁵Lininger Jr, S., et. al. *The Natural Pharmacy, 2nd Ed*. Rocklin, CA: Prima Publishing, 1999.
- ¹⁶Kumar NB, et. al. "The specific role of isoflavones on estrogen metabolism in premenopausal women." *Cancer*; 2002, 94(4):1166-1174.
- ¹⁷Arena S., et. al. "A natural alternative to menopausal hormone replacement therapy. Phytoestrogens." *Minerva Ginecologica*; 2002, 54(1):53-57.
- ¹⁸Stark A, Madar Z. "Phytoestrogens: a review of recent findings." *Journal of Pediatric Endocrinology and Metabolism*; 2002, 15(5):561-572.
- ¹⁹Guerra MC, et. al. "Comparison between chinese medical herb Pueraria lobata crude extract and its main isoflavone puerarin antioxidant properties and effects on rat liver CYP-catalysed drug metabolism." *Life Sciences*; 2000, 67(24):2997-3006.
- ²⁰Zhou Y., et. al. "[Comparative study on pharmacological effects of various species of Pueraria]. *Zhongguo Zhong Yao Za Zhi*; 1995, 20(10):619-621, 640.
- ²¹Lukaczer ND, D. "Estrogen's Two-Way Street." *Nutrition Science News*; November, 2001.
- ²²Kaufman PB, et. al. "A comparative survey of leguminous plants as sources of the isoflavones, genistein and daidzein: implications for human nutrition and health." *Journal of Alternative and Complementary Medicine*; 1997, 3(1):7-12.
- ²³Messina MJ, Loprinzi CL. "Soy for breast cancer survivors: a critical review of the literature." *Journal of Nutrition*; 2001, 131(11 Suppl):3095S-3108S.
- ²⁴Golan MD, Ralph. *Optimal Wellness*. NY, NY: Ballantine Books, 1995.
- ²⁵Murray, M. *Encyclopedia of Nutritional Supplements*. Rocklin, CA: Prima Publishing, 1996.
- ²⁶"Important Fats for the Body;" *Nutrition Science News*; November, 1996.
- ²⁷Johnston, I. & Johnston, J. *Flaxseed (Linseed) Oil and the Power of Omega-3*. Los Angeles, CA: Keats, 1990.
- ²⁸"Flaxseed—As Food and Medicine;" *The Healthy Cell News*. Young, AZ: ALV Publishers, 1997.
- ²⁹Whitaker MD, J. *Dr. Whitaker's Guide To Natural Healing*. Rocklin, CA: Prima Publications, 1996.
- ³⁰Mindell PhD, E. *Earl Mindell's Supplement Bible*. NY, NY: Fireside, 1998.
- ³¹Bougnoux, P., et al. "Alpha-linolenic acid content of adipose breast tissue: A host determinant of the risk of early metastasis in breast cancer." *British Journal of Cancer*; 1994, 70, 330-334.
- ³²Bennett Pharm.D., M. "The Replacements." *Nutrition Science News*; August, 1999.
- ³³Thompson, L.U., et. al. "Antitumorigenic effect of a mammalian lignan precursor from flaxseed." *Nutrition and Cancer*; 1996, 26(2): 159-165.
- ³⁴"Lignan Precursor Shows Cancer-Protective Properties." *Nutrition Science News*; December, 1996.

- ³⁵Park JS, et. al. "Dietary lutein from marigold extract inhibits mammary tumor development in BALB/c mice." *Journal of Nutrition*; 1998, 128(10):1650-1656.
- ³⁶Rock, C.L., et. al. "Carotenoids, vitamin A, and estrogen receptor status in breast cancer." *Nutrition and Cancer*, 1996, 25(3):281-296.
- ³⁷Toniolo, P., et. al. "Serum carotenoids and breast cancer." *American Journal of Epidemiology*; 2001, 153(12): 1142-1147.
- ³⁸Hulten, K., et. al. "Carotenoids, alpha-tocopherols, and retinol in plasma and breast cancer risk in northern Sweden." *Cancer Causes and Control*; 2001, 12(6):529-537.