body logicmd® ELITE

PURE ANTIOXIDANTS

100% Natural Dietary Supplement

CARDIOVASCULAR HEALTH

- Increases Antioxidant Protection
- Promotes a Healthy Inflammatory Response
- Activates Nrf2 – The Master Cellular Switch for Antioxidant Production
- Induces "Survival" Genes and Supports Cellular Longevity
- Enhances Mechanisms of Cellular Detoxification

This product is a unique combination of phytonutrients designed to enhance antioxidant potential by stimulating Nuclear factor-erythroid-2-related factor 2 (Nrf2), a dynamic pathway known to increase the production of a vast array of the body's most important cellular antioxidants. This exclusive blend of pterostilbene, resveratrol, broccoli seed extract, pomegranate and alpha lipoic acid has a wide array of biological activity including direct free radical scavenging potential as well as inducing intracellular antioxidant production. These potent phytochemicals are the basis of many "superfoods" and have extensive, peer-reviewed research supporting their dramatic effect on cell health and longevity.

Overview

Nrf2 is a binding-protein that plays a significant role in the antioxidant response of the body.[1] It is the primary cellular defense against the cytotoxic effects of oxidative stress. This key protein rests inside the cell and is unable to move or operate until it is released by an Nrf2 activator. Once released it migrates into the cell nucleus and bonds to the DNA at the location of the Antioxidant Response Element (ARE), which is the master regulator of the total antioxidant system available within each cell. Studies suggest that Nrf2 plays an important role in supporting the activation of cellular antioxidant systems as well as inflammatory balance.[1] A number of fruit and vegetable compounds have been shown to increase Nrf2. It is believed that these compounds have a protective effect on the body, maintain a healthy cycle of inflammation, and induce cellular longevity.[1,2]

Pterostilbene†

Plants contain compounds called phytochemicals that have numerous health benefits. One of these compounds, called Stilbenes, is a sub-group of phytochemicals called polyphenols with potent antioxidant properties. They are produced when the plant is exposed to an environmental threat such as viral, microbial or ultraviolet exposure and protect the plants from such threats.[3] Pterostilbene is a specific stilbene found in such plant varieties as deerberry, rabbiteye blueberries, unripe Pinot noir and *Botrytis vinifera*- infected Chardonnay grapes and Xarello grapes.[3] In vitro studies show pterostilbene significantly enhanced expression of antioxidant enzymes, such as heme oxygenase-1 (HO-1) and glutathione reductase (GR), via activation of Nrf2 signaling.[3-8] Some studies have shown that antioxidant benefits may be improved when pterostilbene is combined with quercetin.[4]

Resveratrol†

Resveratrol, like pterostilbene, is a stilbene found in many plants and red wines. It is the most well-researched and known stilbene. Studies of resveratrol have found it to enhance the potential of antioxidant and detoxification activity, as well as positively influence healthy inflammation processes and longevity.[9-11] Other studies have begun linking resveratrol to enhancing blood sugar balance and for its ability to improve cognitive health.[12]

SGS Broccoli Seed Extract†

SGS broccoli seed extract has the highest levels of glucoraphanin (a potent Nrf2 stimulator) of any broccoli product available. Glucoraphanin is a phytochemical

† This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

compound that is the precursor to sulforaphane. Sulforaphane is the leading compound in broccoli and responsible for many of its positive benefits. These compounds and their mechanisms have been studied extensively and supported by more than 500 scientific publications. Sulforphane is a potent antioxidant shown to support detoxification, healthy inflammation balance and long-term health. Studies show sulforphane works by improving hormone balance and increasing functional enzymes that support excretion of toxins from the body. [13-16] The activity of SGS Broccoli Seed Extract has been shown to remain active within the body for up to three days following consumption.

Quercetin†

Quercetin is a bioflavonoid found in high concentrations in onions, garlic, horseradish and other fruits and vegetables. Quercetin has been shown to enhance antioxidant activity, regulate inflammatory balance and support strong cardiovascular function. [17-20]

Pomegranate 40P†

The pomegranate is a phytochemical-rich fruit that contains ellagic acid, punicalagins, anthocyanidins and flavonoids – all compounds shown to increase plasma antioxidant levels. The Pomegranate 40P used in this product is an extract of the whole fruit excluding the juice. The whole fruit is squeezed to remove the juice and the extract is made from the remaining pulp, seeds, and skin. This extract is standardized to contain no less than 40% punicosides. Pomegranate 40P supports antioxidant activity, healthy microbial activity and inflammatory balance. [21-23] Recent studies have also shown supplementing pomegranate enhances cardiovascular function when consumed regularly.[24]

Alpha Lipoic Acid†

Alpha-lipoic acid is an antioxidant that is made by the body and is found in every cell, where it helps turn glucose into energy. It is a potent antioxidant capable of restoring other antioxidants including vitamin C, vitamin E and glutathione. Studies show that lipoic acid scavenges free radicals, supporting optimal antioxidant activity and healthy inflammation balance. [25-26] In some studies alpha lipoic acid has been shown to support nerve function and improve cognitive health. [27-29]

Directions

2 capsules per day or as recommended by your health care professional.

Does Not Contain

Gluten, yeast, artificial colors and flavors.

Cautions

Do not consume this product if you are pregnant or nursing. Consult your physician for further information.

Supplement Facts

V1

Serving Size 2 Capsules
Servings Per Container 30

2 capsules contain	Amount Per Serving	% Daily Value
Quercetin Dihydrate	200 mg	*
Broccoli Seed Extract (SGS™) (Standardized to contain 13% Glucoraphanin)	150 mg	*
Pomegranate Extract (Standardized to contain 40% Punicosides)	150 mg	*
Alpha Lipoic Acid	100 mg	*
trans-Resveratrol (from Polygonum cuspidatum)	100 mg	*
Pterostilbene (pTeroPure™)	60 mg	*

* Daily Value not established

† This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

References

1. Li, W., Khor, T. O. et al. Activation of Nrf2-antioxidant signaling attenuates NFkappaBinflammatory response and elicits apoptosis. *Biochem Pharmacol.* 2008; 76(11):1485-1489.
2. Khor, T. O., Yu, S. et al. Dietary cancer chemopreventive agents - targeting inflammation and Nrf2 signaling pathway. *Planta Med*. 2008; 74(13):1540-1547.
3. Roupe, K. A., Remsberg, C. M. et al. Pharmacometrics of stilbenes: seguing towards the clinic. *Curr Clin Pharmacol.* 2006; 1(1):81-101.
4. Alosi, J. A., McDonald, D. E. et al. Pterostilbene inhibits breast cancer in vitro through mitochondrial depolarization and induction of caspase-dependent apoptosis. *J Surg Res.* 2010; 161(2):195-201.
5. Mannal, P. W., Alosi, J. A. et al. Pterostilbene inhibits pancreatic cancer in vitro. *J Gastrointest Surg.* 2010; 14(5):873-879.
6. Chakraborty, A., Gupta, N. et al. In vitro evaluation of the cytotoxic, anti-proliferative and anti-oxidant properties of pterostilbene isolated from Pterocarpus marsupium. *Toxicol In Vitro.* 2010; 24(4):1215-1228.
7. Paul, S., Decastro, A. et al. Dietary intake of pterostilbene, a constituent of blueberries, inhibits the {beta}-catenin/p65 downstream signaling pathway and colon carcinogenesis in rats. *Carcinogenesis.* 2010;
8. Chiou YS, Tsai ML, et al. Pterostilbene is more potent than resveratrol in preventing azoxymethane (AOM)-induced colon tumorigenesis via activation of the NF-E2-related factor 2 (Nrf2)-mediated antioxidant signaling pathway. J Agric Food Chem. 2011 Mar 23;59(6):2725-33. doi: 10.1021/jf2000103. *Epub* 2011 Feb 28.
9. Kraft, T. E., Parisotto, D. et al. Fighting cancer with red wine? Molecular mechanisms of resveratrol. *Crit Rev Food Sci Nutr*. 2009;49(9):782-799.
10. Rubiolo, J. A., Mithieux, G. et al. Resveratrol protects primary rat hepatocytes against oxidative stress damage: activation of the Nrf2 transcription factor and augmented activities of antioxidant enzymes. *Eur J Pharmacol*. 2008; 591(1-3):66-72.
11. Pallas, M., Casadesus, G. et al. Resveratrol and neurodegenerative diseases: activation of SIRT1 as the potential pathway towards neuroprotection. *Curr Neurovasc Res.* 2009;6(1):70-81.
12. http://www.nia.nih.gov/alzheimers/clinical-trials/resveratrol-alzheimers-disease
13. Clarke, J. D., Dashwood, R. H. et al. Multitargeted prevention of cancer by sulforaphane. *Cancer Lett.* 2008; 269(2):291-304.
14. Chiao, J. W., Wu, H. et al. Ingestion of an isothiocyanate metabolite from cruciferous vegetables inhibits growth of human prostate cancer cell xenografts by apoptosis and cell cycle arrest. *Carcinogenesis.* 2004; 25(8):1403-1408.
15. Fahey, J. W. and Talalay, P. Antioxidant functions of sulforaphane: a potent inducer of Phase II detoxication enzymes. *Food Chem Toxicol.* 1999; 37(9-10):973-979.
16. Nestle, M. Broccoli sprouts as inducers of carcinogen-detoxifying enzyme systems: clinical, dietary, and policy implications. *Proc Natl Acad Sci U S A.* 1997; 94(21):11149-11151.
17. Tanigawa, S., Fujii, M. et al. Action of Nrf2 and Keap1 in ARE-mediated NQO1 expression by quercetin. *Free Radic Biol Med.* 2007; 42(11):1690-1703.
18. Ding, M., Zhao, J. et al. Inhibition of AP-1 and MAPK signaling and activation of Nrf2/ARE pathway by quercitrin. *Int J Oncol.* 2010; 36(1):59-67.
19. Kimura, S., Warabi, E. et al. Essential role of Nrf2 in keratinocyte protection from UVA by quercetin. *Biochem Biophys Res Commun. 2009; 387(1):109-114.*
20. Murakami, A., Ashida, H. et al. Multitargeted cancer prevention by quercetin. *Cancer Lett.* 2008;269(2):315-325.
21. Jurenka, J. S. Therapeutic applications of pomegranate (Punica granatum L.): a review. *Altern Med Rev.* 2008; 13(2):128-144.
22. Adams, L. S., Seeram, N. P. et al. Pomegranate juice, total pomegranate ellagitannins, and punicalagin suppress inflammatory cell signaling in colon cancer cells. *J Agric Food Chem.* 2006; 54(3):980-985.
23. Mertens-Talcott, S. U., Jilma-Stohlawetz, P. et al. Absorption, metabolism, and antioxidant effects of pomegranate (Punica granatum l.) polyphenols after ingestion of a standardized extract in healthy human volunteers. *J Agric Food Chem*. 2006; 54(23):8956-8961.
24. M. Davidson et al., Effects of Consumption of Pomegranate Juice on Carotid Intima-Media Thickness in Men and Women at Moderate Risk for Coronary Heart Disease, *Am J Cardiol* 2009 Oct 1;104(7):936-42.
25. Shay, K. P., Moreau, R. F. et al. Alpha-lipoic acid as a dietary supplement: molecular mechanisms and therapeutic potential. *Biochim Biophys Acta*. 2009; 1790(10):1149-1160.

26. Suh, J. H., Shenvi, S. V. et al. Decline in transcriptional activity of Nrf2 causes age-related loss of glutathione synthesis, which is reversible with lipoic acid. *Proc Natl Acad Sci U S A*. 2004; 101(10):3381-3386.

27. Androne L, Gavan NA, Veresiu IA, Orasan R. In vivo effect of lipoic acid on lipid peroxidation in patients with diabetic neuropathy. *In Vivo*. 2000;14(2):327-330.

28. Nagamatsu M, Nickander KK, Schmelzer JD,et al. Lipoic acid improves nerve blood flow, reduces oxidative stress, and improves distal nerve conduction in experimental diabetic neuropathy. *Diabetes Care*. 1995;18:1160-1167.

29. Panigrahi M, Sadguna Y, Shivakumar BR, Kolluri SV, Roy S, Packer L, Ravindranath V. Alpha-Lipoic acid protects against reperfusion injury following cerebral ischemia in rats. Brain Res. 1996;717(1-2):184-188.
ethanol-induced fatty infiltration. *Alcohol Clin Exp Res* 1993;17:552-5.