



What's In Protandim?

Protandim is made from five all-natural, plant ingredients:

- **Milk Thistle Extract** — A biennial thistle with white blotched leaves and purple flower heads. Naturalized in South America and California.
- **Bacopa Extract** — A perennial, creeping herb. Grown throughout India, Nepal, Sri Lanka, China, Taiwan, Vietnam and Florida
- **Ashwagandha Root** — A member of the pepper family, also called Winter Cherry or Indian Ginseng. Grows in India, Nepal, Pakistan, Sri Lanka and Bangladesh.
- **Green Tea Leaf Extract** — A tropical evergreen shrub. Cultivated in China, Japan and India.
- **Turmeric Extract Rhizome** — Part of the ginger family. Native to China.

This product has not been evaluated by the FDA. This product is not intended to diagnose, treat, cure or prevent any disease.

6

Chronic Pulmonary Artery Pressure Elevation is Insufficient to Explain

Right Heart Failure

Publication: *Circulation*, Nov. 17, 2009

Authors: H.J. Bogaard, R. Natarajan, S.C. Henderson, C.S. Long, D. Krakauskas, L. Smithson, R. Ockaili, J.M. McCord, N.F. Voelkel, Divisions of Pulmonary and Critical Care, Virginia Commonwealth University

In short: This study used a lab model of pulmonary hypertension in rats to explore factors contributing to heart failure in animals. Pulmonary hypertension was induced in rats through a drug and by creating an oxygen-poor environment. The animals pre-treated with Protandim experienced

strong cardio-protective effects. **Bottom Line:** Protandim protected the animal's hearts by increasing the expression of protective genes and preventing the formation of scar tissue.

7

The Chemopreventive Effects of Protandim: Modulation of p53 Mitochondrial Translocation and Apoptosis During Skin Carcinogenesis

Apoptosis During Skin Carcinogenesis

Publication: *PLoS One*, July 30, 2010

Authors: D. Robbins, X. Gu, R. Shi, J. Liu, F. Wang, J. Ponville, J.M. McCord, Y. Zhao, Department of Pharmacology, Toxicology and Neuroscience, Louisiana State University Health Sciences

In short: This study explored

the biochemical mechanisms that underlie the ability of Protandim to suppress tumors in mice. That ability was previously demonstrated by the authors in a study involving a mouse two-stage model of chemically-induced skin cancer. This study suggested that suppression of p53 and induction of MnSOD may play an important role in the tumor suppressive activity of Protandim.

Bottom line: The induction of antioxidant enzymes by Protandim may be a practical and potent approach for cancer prevention.

8

Synergistic Induction of Heme Oxygenase-1 by the Components of the Antioxidant Supplement Protandim

Publication: *Free Radical Biol-*

ogy & Medicine, Feb. 1, 2009

Authors: K. Velmurugan, J. Alam, J.M. McCord, S. Pugalenth, Division of Endocrinology, Department of Medicine, University of Colorado Denver

In short: Explored whether components of Protandim acted in a synergistic manner in certain cells, specifically if it would induce heme oxygenase. When components were tested alone, only curcumin showed minimal induction. Together they produced a strong, synergistic induction.

Bottom line: Protandim produced a 300 percent increase in glutathione, a key anti-oxidant and anti-aging factor. Also, the supplement's patented formula provides a strong synergy that is greater than the sum of its parts. ■

SOURCE: PUBMED.GOV

When you read this information, please keep in mind that Protandim® is a dietary supplement, not a drug. We do not promote or intend to imply or represent that Protandim® can prevent, cure, treat or mitigate any disease or class of disease. Protandim® is not intended to be an alternative or replacement for any drug or biological product. If you are interested in reviewing the studies mentioned above visit www.pubmed.gov and enter "Protandim" in the search box.