

INNATE

RESPONSE FORMULAS®

Complete 8™ Vitamin E

V i s m e d i c a t r i x n a t u r a e

Product Rationale

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Complete 8™ Vitamin E Rationale

Full Spectrum Vegetarian Softgels

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Rationale

The fundamental reasons and logical basis used to formulate Complete 8™ Vitamin E.

THE BENEFITS OF Complete 8™ Vitamin E

Complete Vitamin E is an antioxidant that has been found to be important in:

- Cancer prevention
- Protection against cardiovascular disease
- Tissue repair and wound healing
- Skin health
- Healthy nerves
- Reduction of blood pressure
- Reducing the symptoms of premenstrual syndrome
- Increased sperm production
- Prevention of cataracts
- Neuro-protection - Epilepsy, Alzheimers and Parkinsons

FORMULA FACTS

VITAMIN E – TOCOPHEROLS AND TOCOTRIENOLS

Vitamin E was discovered at the University of California at Berkeley in 1922. It is one of our most important antioxidant vitamins. It was subsequently found, through extensive examination, that vitamin E is a family of eight isomers: alpha, beta, gamma and delta tocopherols and alpha, beta, gamma and delta tocotrienols.

Vitamin E that naturally occurs in our food always contains all eight compounds. Until recently, supplemental vitamin E has been based on only one fraction of vitamin E: alpha tocopherol.

THE VALUE OF Complete 8™ Vitamin E

The wisdom of nature is once again being validated by science. Emerging research reveals that optimal benefits from Vitamin E can only be experienced by using raw materials containing the full spectrum of tocopherols and tocotrienols. The reason for the inclusion of the Complete 8 is that each of the family members plays a unique and important role. The eight components have different molecular structures, biological activities and potential therapeutic benefits.

For example:

- The antioxidant capabilities of the tocotrienols are 40-50 times that of the tocopherols [11].
- Researchers at Berkeley reported that gamma-tocopherol has more potent anti-inflammatory properties than alpha-tocopherol.
- Delta-tocotrienol was significantly more potent than the alpha and gamma-tocotrienols in the inhibition of platelet aggregation (anti-thrombotic) [7].
- A medical study suggests that palm-based tocotrienols are more efficient than alpha-tocopherol alone in the protection of the heart against oxidative stress induced by ischemic reperfusion [9].

Tocotrienols are known to have an unsaturated isoprenoid side chain rather than the saturated side chain of tocopherols. This allows them to function in a uniquely different manner than tocopherols.

Note: It is important to remember that each of the eight tocopherols and tocotrienols are members of a complete team. Their synergy as a group is distinctly more powerful than if they were to be consumed separately.

THERAPEUTIC EFFECTS OF Complete 8™ Vitamin E

In recent years tocotrienols have been extensively studied for their therapeutic benefits. There has been particular focus on tocotrienols' and their therapeutic potential as adjuvant therapy in breast cancer. Tocotrienols have been shown to be effective antioxidants, to prevent cardiovascular disease and liver disorders. They have demonstrated cholesterol lowering capabilities, a contribution to skin health and anti-aging benefits.

ANTI-CANCER AND TUMOR SUPPRESSIVE

Tocotrienols have been shown to inhibit the proliferation of human breast cancer cells in several scientific studies [16]. A research group at the University of Texas at Austin, confirmed that naturally occurring tocotrienols and RRR-delta-tocopherol induced apoptosis (death) of these cancer cells [15]. Research has also demonstrated that gamma-tocotrienol is 3 times more potent in inhibiting growth of cultured human breast cancer cells than Tamoxifen [17].

ANTIOXIDANT EFFECTS

The antioxidant capabilities of tocotrienols are shown to be more potent than tocopherols [11]. This is especially important since the tocotrienol unsaturated side chain allows for more efficient penetration into tissues that have saturated fatty layers, such as the brain and liver. Tocotrienols have superior free-radical scavenging compared to tocopherols. This free radical protection is attributed to their superior distribution in the fatty layers of the cell membrane [12, 13, 14]. It should be noted that all eight members of the vitamin E family work together synergistically in their antioxidant function - this is called the **antioxidant network**.

Antioxidants are essential for protection from free-radical damage. This damage may occur as a result of stress, environmental and dietary factors, air and car travel and other daily activities. Free radicals are constantly challenging our body and **Complete 8™ Vitamin E** provides valuable support for the body's natural antioxidant defense mechanisms.

Taken prior to strenuous exercise, **Complete 8™ Vitamin E** prevents protein oxidation and lipid peroxidation. It has proven to be a valuable supplement for athletes, joggers and body builders.

CARDIOVASCULAR BENEFITS AND CHOLESTEROL LOWERING EFFECTS

Studies demonstrate that tocotrienols inhibit unhealthy cholesterol production in the liver, thereby lowering total blood cholesterol. Alpha-tocotrienol suppresses the key enzyme in cholesterol synthesis, *HMG-CoA reductase* that effectively lowers plasma concentrations of LDL cholesterol [1, 3]. In addition, tocotrienols prevent LDL cholesterol oxidation through their actions as antioxidants [4, 5, 6].

Delta-tocotrienol has been shown to be a potent factor in the inhibition of platelet aggregation; therefore tocotrienols are a valuable antithrombotic agent [7, 8, 9].

Palm based tocotrienols are the first natural compound to be shown, in human clinical study, to have the ability to reverse arterial blockage. This has profound implications for the reduction of cardio-vascular diseases such as stroke and arteriosclerosis.

Another recent study found that tocotrienols are effective natural agents in the prevention of increased blood pressure [10].

SKIN HEALTH AND ANTI-AGING

Tocotrienols, like tocopherols, can protect the skin from the damaging effects of exposure to ultraviolet radiation, pollution, cigarette smoke and other environmental and biological stress factors. Tocotrienols applied topically prevent the damaging effects of ultraviolet radiation [19]. Topical application of tocopherols and tocotrienols penetrate the skin to the subcutaneous fat layer within 30 minutes. This significantly increase the concentration of these antioxidants in the strata corneum [18]. This is the first line of defense against free radicals generated in the skin by UV/ozone rays.

Complete 8[™] Vitamin E therefore offers valuable protection against skin damage and aging as a result of oxidative rays.

NEUROPROTECTIVE EFFECTS

Elevated levels of glutamate have been implicated in many neurological diseases including Epilepsy, Alzheimer's and Parkinson's. Induction of oxidative stress by glutamate has been demonstrated to be the primary cytotoxic mechanism. High glutamate levels result in depletion of an essential antioxidant enzyme, glutathione, in the brain. Oxidative damage may accumulate over a period of years leading to significant brain damage.

Complete 8[™] Vitamin E provides supportive protection against oxidative stress to the brain [20].

ANTI-INFLAMMATORY EFFECTS

Inflammatory eicosanoids are associated with a number of chronic diseases such as cancer, heart disease and Alzheimer's. Tocotrienols may inhibit the release of arachidonic acid from cell membranes and, through this action, prevent the production of inflammatory agents.

FIRST ALL VEGETARIAN COMPLETE VITAMIN E

Innate Response Formulas[®] Complete 8[™] Vitamin E is the first and to our knowledge the only complete tocopherol and tocotrienol supplement. **Complete 8[™] Vitamin E** has the distinct advantage of being delivered in a vegetarian softgel.

Innate Response Formulas[®] soft-gels are tested and shown to be free of all chemical preservatives.

THE SOURCE OF *NUTRITIONAL THERAPEUTIX*[™] TOCOTRIENOLS

Innate Response Formulas[®] Complete 8[™] Vitamin E contains tocotrienols extracted from the palm fruit without the use of chemical solvents. This extract naturally contains supportive phytonutrients. These supportive factors include phytosterols that have been shown to prevent absorption of cholesterol in the intestine, and plant squalene, which is a strong natural antioxidant.

FOOD SOURCES

Tocotrienols are naturally present in most plants but are destroyed in processing. Palm oil, when carefully extracted from palm fruits, contains the most comprehensive range of tocotrienols. Other sources include rice, wheat germ, oat and barley.

MAXIMUM UTILIZATION

As with all nutrients, the full benefits of tocopherols and tocotrienols can only be experienced if they are utilized at the cellular level. To be transported into the blood stream through the gastrointestinal tract, tocopherols and tocotrienols must be ferried across the intestinal wall by micelles that require lipases and bile salts to function. The body, in the presence of dietary fat, produces bile and lipases.

Innate Response Formulas[®] Complete 8[™] Vitamin E contains wheat germ oil, sunflower seed oil and lecithin, all of which are whole food oils to encourage bile and lipase production. This helps to emulsify the tocopherols and tocotrienols, leading to a greater surface area, enhanced transfer across the intestinal wall and, most importantly, optimum utilization.

NOTE: While no daily RDA has been established for tocotrienols, research indicates that a daily intake of 20 mg for prevention and 30-40 mg for therapeutic challenges of pure tocotrienols obtained from palm oil will provide enough tocotrienols for all the health benefits associated with them.

Note: This information has not been approved by the FDA. It is not intended to diagnose, treat or mitigate any disease. Always consult a qualified health care practitioner.

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