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DavosLife tocotrienols: Powerful action beyond antioxidation

Figure 1 – Oil palm fruit (Elaeis guineensis)
Photo courtesy of MPOC

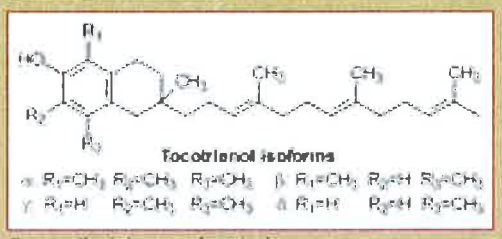

Figure 2 – Chemical structure of tocotrienols

Free radicals are highly reactive molecules released by the body when exposed to stress and other factors such as smoking, ultraviolet (UV) radiation and excessive exercise. Through the process of lipid peroxidation, free radicals cause degradation of cell membranes and DNA damage within cells (1). Normally, the body can handle free radicals, but if antioxidants are unavailable, or if the free radical production becomes excessive, damage can occur. Of particular importance is that free radical damage accumulates with age.

Antioxidants such as vitamin E help preserve life by protecting against the destructive effects of free radicals. They help scavenge and neutralize free radicals to maintain health and overall well-being.

TOCOTRIENOLS – A GEM IN THE VITAMIN E FAMILY

Tocopherols and tocotrienols are members of the Vitamin E family and are found naturally in various types of plant seeds. Each of which has four isomeric forms: alpha, beta, gamma and delta. It is believed that they are nature's way of protecting seeds and seedlings from the damaging effects of ultraviolet (UV) light and oxidation (2). Tocotrienols are found mainly in palm fruit (Figure 1), oats, barley and from wheat and rice bran that form the hard outer layer covering the seed beneath the husk.

Typically, it is the tocopherols that are commonly used as a dietary and cosmeceutical ingredient (3). While both tocotrienols and tocopherols are capable of scavenging harmful free radicals, evidence has shown that tocotrienols possess 60 times superior antioxidant activity than tocopherols (4).

TOCOTRIENOLS – NATURALLY POWERFUL ANTIOXIDANTS

Through established antioxidation properties, tocotrienols help prevent DNA damage associated with certain cancers, reduce fatty plaque formation in blood vessels (atherosclerosis), promote healthy blood pressure and blood lipid levels, as well as support anti-ageing by enhancing the skin's innate antioxidation abilities (5). A Radical Skin Factor (RSF) of 4.15 enables tocotrienols to dramatically reduce free radical production in the skin due to UVA and UVB exposure (6). This indicates tocotrienols' sun protective and anti-ageing mechanisms. Likewise, tocotrienols' ability to activate cells responsible for skin repair suggests their role in wound healing and skin regeneration (7).

Cellular uptake of tocotrienols is up to 70 times higher, as their distinct chemical structure (Figure 2) readily allows rapid incorporation for optimal antioxidation activity. While tocotrienol's ORAC (Oxygen Radical Absorbance Capacity) value is over 2 times that of tocopherol, studies have shown tocotrienols to have 60 times superior antioxidant bioactivity than alpha-tocopherol (4,8).

TOCOTRIENOLS – BEYOND ANTIOXIDATION

Tocotrienols are not just simple antioxidants. Over 400 research studies have been published so far on tocotrienols. Many of these studies found that even at low doses, tocotrienols exert unique and beneficial effects that are superior to alpha-tocopherol for a number of health conditions and diseases. These include: cancer, metabolic syndrome, nerve protection, skin-depigmentation, diabetes, and bone formation. Studies by DavosLife show that tocotrienol supplementation for 8 weeks in humans with elevated cholesterol levels can help reduce triglyceride levels by up to 28% by acting on proteins responsible for cholesterol production (9). In addition, a large number of research studies on tocotrienols' cancer-fighting potential have been published in renowned scientific journals (5). Moreover, recent studies have shown that tocotrienols help reduce the skin's ability to produce melanin, a skin-depigmenting mechanism that goes beyond antioxidation (6).

DavosLife Natural e³ – Derived from Nature, Driven by Science

In response to the growing body of evidence that points to a promising future for tocotrienols in the supplement market, DavosLife produces Natural e³, a balanced blend of tocotrienol-rich complex extracted using state-of-the-art technology from GMO-free palm fruits traceable to its parent company's plantations. It has the world's largest manufacturing facility and R&D center dedicated to the production and research of tocotrienols and supplies the world's highest purity palm tocotrienols of up to 97% purity for various isomer grades. It has been awarded the "2010 Asia Pacific Excellence Award in Vitamin E Research" by Frost and Sullivan for its research work.

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Davos Life Science was established in 2004 as the world's largest tocotrienol manufacturer and research company. Currently, Davos Life Science's tocotrienol is sold to leading international nutraceutical and cosmeceutical finished product manufacturers under the brand name, Natural e³.

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