

Toco-E Max



Absolute Health
Internal Medicine & Pediatrics

Clinical Applications

- Offers Antioxidant Protection for Cell Membranes and Lipids*
- Supports Healthy Cytokine and Eicosanoid Balance*
- Supports Neuroprotection and Cognitive Health*
- Supports Cardiovascular, Nervous, and Reproductive Systems*
- Supports Liver Health*
- Provides Mixed Tocopherols and Tocotrienols for Comprehensive Vitamin E Nutrition*

Toco-E Max features EVNol SupraBio™ full-spectrum palm tocopherol/tocotrienol complex. EVNol SupraBio's patented bio-enhancing technology has been shown to increase tocotrienol absorption rates in humans by an average of 250%. Tocotrienols confer unique health benefits not provided by tocopherols. This means Toco-E Max not only enables superior absorption but also more comprehensive vitamin E benefits than tocopherol-only formulas.*

All Absolute Health Formulas Meet or Exceed cGMP Quality Standards

Discussion

Vitamin E, in its natural form, comprises eight different compounds: alpha-, beta-, gamma-, and delta-tocopherols and alpha-, beta-, gamma-, and delta-tocotrienols. Both tocopherols and tocotrienols are important to human health. Known as the “master antioxidant,” vitamin E has the ability to attenuate oxidative stress, and its antioxidant-related effects on various organs and systems have been the focus of vast research. More recently, non-antioxidant mechanisms have been proposed, such as those that affect cell-signal transduction and gene expression.^[1] Though the vast majority of research has been on alpha-tocopherol, recent mechanistic studies indicate that other isomers of vitamin E, such as gamma- and delta-tocopherols and tocotrienols, have superior antioxidant and cell-signaling properties that offer greater health benefits.*^[2,3]

Tocotrienols

Studies have demonstrated that tocotrienols have superior antioxidant activity compared to tocopherols. Tocotrienols also exhibit biological activities related to neuroprotection, radioprotection, cell-life regulation, cytokine modulation, and lipid metabolism that are not shared by tocopherols.^[3-5] Many of these benefits are thought to be mediated via their carboxychromanol metabolites.^[2,6] Among other actions, tocotrienols have been shown to inhibit HMG-CoA reductase (3-hydroxy-3-methylglutaryl-coenzyme A reductase), attenuate transcription factor NF-κB activation, and inhibit COX-2.^[7,8] Given these mechanisms, in addition to their antioxidant mechanisms, tocotrienols have a very broad range of applications. Due to the poor absorption and low bio-availability of tocotrienols, scientists developed EVNol SupraBio™.*

EVNol SupraBio: Bio-enhanced tocotrienol/tocopherol complex

EVNol SupraBio is a natural, full-spectrum tocopherol and tocotrienol complex extracted and concentrated from the red palm fruits (*Elaeis guineensis*) of sustainable plantations in Peninsular Malaysia. This vitamin E complex also contains minute amounts of other phytonutrients such as plant squalene, phytosterols, coenzyme Q10, and mixed carotenoids that are naturally extracted together with tocotrienols. This patented formula contains a precise mixture of oil and approved food emulsifiers at optimum ratio and processing that self-emulsifies in the gastrointestinal tract to facilitate and provide a rapid and consistent absorption of tocotrienols into the plasma, independent of dietary fat or food intake.*

EVNol SupraBio Human Absorption Studies

Kholsa et al were the first to establish that oral supplementation of EVNol SupraBio resulted in a peak plasma level 12- to 13-fold the level established for neuroprotection.^[9] Later, in a two-period, two-sequence, crossover study performed in healthy human volunteers, researchers demonstrated that the SupraBio system increased the rate and extent of absorption of individual tocotrienols by an average of 250% compared to a regular tocotrienol oil extract.^[10] Moreover, EVNol SupraBio is the only tocotrienol/tocopherol complex in the market that has been the subject of an actual human tissue distribution study. In that study, Patel et al demonstrated that orally supplemented tocotrienols from EVNol SupraBio are absorbed into plasma and delivered and accumulated in vital organs, including the brain.*^[11]

EVNol SupraBio Human Clinical Studies

EVNol SupraBio is a heavily researched tocopherol/tocotrienol product that has been scientifically substantiated with human clinical studies on brain health, liver support, beauty, and cardiovascular health.^[11-18] For example, in a randomized, placebo-controlled, two-year neuroprotection study (n = 121), supplementation with 200 mg/d EVNol SupraBio attenuated the progression of injury to brain white matter.^[12] Three other studies demonstrated the positive effects of EVNol SupraBio on parameters of liver health^[11,13,14], and studies related to cardiovascular health suggested that 50-200 mg/d EVNol SupraBio supports healthy lipid (cholesterol, low-density lipoprotein, triglyceride) metabolism and showed a trend toward improved arterial compliance (the ability to expand and contract).^[15,16] Supplementation has also been shown to support the desired immune response to vaccine.^[17] And in a randomized, double-blind, placebo-controlled trial (n = 38), volunteers with hair loss who were given 100 mg of EVNol SupraBio daily experienced a 34.5% increase in number of hairs at the end of eight months, compared to a 0.1% increase in the placebo group.^[18] The higher activity of tocotrienols in certain organs may, in part, be explained by the fact that the unsaturated side-chain of tocotrienols allow more efficient penetration into tissues, such as brain and liver tissues, that have saturated fatty layers.*^[3,13]

It is clear from the emerging data that tocopherols and tocotrienols have complementary, unique, and important functions.^[3] Providing a formula that supplies the full spectrum of natural vitamin E isomers is an important option for practitioners and their patients.*

***These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.**

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Toco-E Max



Supplement Facts

Serving Size: 1 Softgel
Servings Per Container: 60

	Amount Per Serving	%Daily Value
Vitamin E (as d-alpha tocopherol)	33.5 mg	223%
EVNol SupraBio™ Bio-Enhanced Natural Full Spectrum Tocotrienol/Tocopherol Complex	164.5 mg	**
Total Mixed Tocotrienols	25 mg	**
d-Gamma Tocotrienol	11.5 mg	**
d-Alpha Tocotrienol	7.4 mg	**
d-Delta Tocotrienol	4.1 mg	**
d-Beta Tocotrienol	822.5 mcg	**
Total Mixed Tocopherols	125 mg	**
Typical Composition:		
d-Gamma Tocopherol	75 mg	**
d-Delta Tocopherol	30 mg	**
d-Alpha Tocopherol	17.5 mg	**
d-Beta Tocopherol	2.5 mg	**

**Daily Value not established.

Other Ingredients: Sunflower oil, softgel (bovine gelatin, vegetable glycerin, and purified water), and polyglycerol esters of fatty acids.



EVNol SupraBio™ is a trademark of ExcelVite Inc. and protected by US patent 6,596,306.

References

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Note on Vitamin E Activity and International Units (IUs)

Only alpha-tocopherol contributes to IU of vitamin E activity: 1 mg d-alpha tocopherol equals 1.49 IU vitamin E activity. Other naturally occurring forms of vitamin E (beta-, gamma-, delta-tocopherol) and tocotrienols do not contribute toward meeting the vitamin E requirement. Hence, the IU is calculated based on alpha-tocopherol alone in all formulations. Other isomers of vitamin E are expressed as "mg." Each gram of EVNol SupraBio 20% contains approximately 152 mg d-mixed tocotrienols and 35-60 mg d-alpha-tocopherol. Hence, the minimum vitamin E activity in 1 gram of EVNol SupraBio 20% = 35 mg d-alpha-tocopherol x 1.49 = 52.15 IU.

Does Not Contain

Wheat, gluten, corn, yeast, soy protein, dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

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DRS-312
REV. 08/12/19