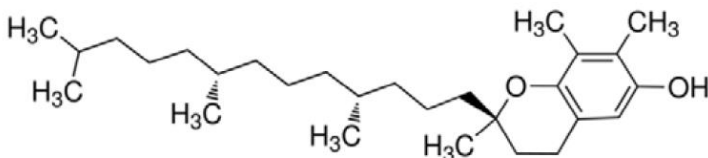


Gamma E Toco Complex – 90 Softgels

TECHNICAL SUMMARY

Gamma-tocopherol (Gamma-TOH) represents the primary dietary form of vitamin E in the U.S., and recent scientific studies indicate that it possesses unique functions that distinguish it from other forms of vitamin E.* Gamma-TOH works within the vitamin E complex to trap and remove nitrogen radicals from the body and helps to balance the body's normal response to physiological stress.* Gamma E Toco Complex has the necessary full range of antioxidant protection of vitamin E, with a balance of tocopherols plus a full complement of tocotrienols.* The entire vitamin E complex acts to stabilize cell membranes, supports a healthy neurological system, and helps to maintain cardiovascular health.*

Structure Formula:



Chemical Name: d- γ Tocopherol or (R,R,R)-γ-Tocopherol or 3,4-Dihydro-2,7,8-trimethyl-2-(4',8',12'- trimethyltridecyl)benzopyran-6-ol.

Allergen and Additive Disclosure: Contains soy. Not manufactured with wheat, gluten, milk, egg, fish, or shellfish ingredients. Produced in a GMP facility that processes other ingredients containing these allergens.

Delivery Form: Softgel

ROLE AS NUTRIENT/FUNCTION

The term vitamin E represents a family of eight naturally occurring, structurally related compounds. The chemical structure of these compounds presents a side chain (phytyl group), which is saturated for tocopherols and unsaturated for tocotrienols. The α-, β-, γ-, and δ-tocopherols and the α-, β-, γ-, and δ-tocotrienols differ in the number and the position of methyl groups (CH₃) on the ring. The different forms of vitamin E exhibit different biological and anti-oxidative activities.* Of all compounds within the vitamin E family, α- and γ-tocopherols are the principal vitamers found in the diet and comprise most of the vitamin E content of tissues.

Vitamin E functions in the body primarily as a chain-breaking antioxidant that prevents the propagation of lipid peroxidation.*

When compared to α-tocopherol, in laboratory experiments, γ-tocopherol has specific biological effects related to detoxification of reactive nitrogen species and is better able to balance the body's normal response to physiological stress, which could translate into different clinical outcomes when the diet is supplemented with either form of vitamin E.

NATUROKINETICS®

Liberation: Dissolution of the gelatin capsule using a USP testing method of disintegration occurs between zero and 60 minutes.

Supplement Facts

Serving Size 2 Softgels Servings Per Container 45

	Amount Per Serving	% Daily Value
Calories	10	
Calories from Fat	10	
Total Fat	1 g	2%*
Vitamin E (as d-alpha Tocopherol)	450 IU	1500%
Total Tocopherols	600 mg	†
Gamma-Tocopherol	200 mg	†
Mixed Palm Tocotrienol Complex (Tocomin®)	10 mg	†

* Percent Daily Values are based on a 2,000 calorie diet.

† Daily Value not established.

Other ingredients: Softgel Capsule (bovine gelatin, glycerin, water, carob) and Rice Bran Oil.

- **Antioxidant Protection of Vitamin E***
- **Full Range of Tocopherols and Tocotrienols**

SUGGESTED USAGE: Take 2 softgels daily, preferably with food, or as directed by your healthcare practitioner.

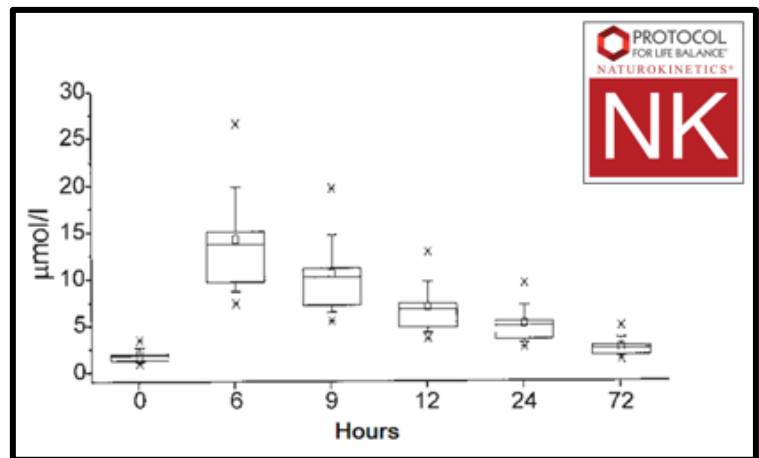


Fig.1. Mean level and distribution range of plasma γ-tocopherol in 21 healthy volunteers following supplementation with 100 mg of deuterium labeled γ-tocopherol acetate. Boxes indicate 25 and 75% percentiles and median values, asterisks show range limits.

Absorption: Vitamin E isomers are absorbed in the small intestine and incorporated into chylomicrons. Vitamin E's absorption is increased with the concomitant ingestion of fatty foods. Data from clinical studies suggest that there is no competition for absorption between α- and γ-tocopherols and that after oral ingestion, the level of each tocopherol increases equally in the plasma and lipoproteins in healthy individuals. (Figure 1)

Distribution: Upon absorption, vitamin E isomers are distributed to peripheral tissues including muscle, adipose, and the brain. Remnant vitamin E isomers are taken up by the liver where α-tocopherol is bound to alpha-tocopherol transfer protein (α-TTP) for distribution to other tissues for storage while γ-tocopherol is rapidly metabolized.

Metabolism: Once transported to the liver, gamma-tocopherol is catabolized into γ -CEHC via a cytochrome P450-dependent process.

Laboratory experiments suggest that the metabolism of γ -tocopherol is different from that of α -tocopherol.

Elimination: γ -tocopherol is excreted in the urine as its primary metabolite, γ -CEHC. Some γ -tocopherol is eliminated in feces via the bile.

CLINICAL VALIDATION

Antioxidant Protection:* The effect of γ -tocopherol supplementation (500 mg/d for 5 days) on postprandial concentrations of the reactive dicarbonyl methylglyoxal (MGO) compound, a by-product of glucose metabolism, was studied in 12 healthy college-aged men. Postprandial MGO concentrations significantly increased in the absence of supplemental γ -tocopherol ($P < 0.05$) but not following γ -tocopherol supplementation. Area under the curve for plasma MGO concentrations was significantly ($P < 0.05$) smaller in the γ -tocopherol supplementation groups vs. control group. Plasma concentrations of reduced glutathione and markers of total antioxidant capacity increased after γ -tocopherol supplementation and were inversely correlated with plasma MGO ($P < 0.05$).

SAFETY INFORMATION

Tolerability: Vitamin E supplementation is generally well tolerated. In rare cases, vitamin E supplementation is associated with GI discomfort, fatigue, weakness, headache, blurred vision, rash, gonadal dysfunction, and creatinuria.

Caution: This product is intended to be used by healthy adults. Caution is advised for use in individuals taking blood thinning medications, including anticoagulant, anti-platelet, and anti-inflammatory medications, or if taking cyclosporine or some chemotherapy regimens.

Contraindications: Vitamin E may increase the risk of bleeding in individuals with vitamin K deficiency.

INTERACTIONS

Drug Interactions: Theoretically, vitamin E may reduce the effectiveness of chemotherapeutic drugs. Concomitant use of Plavix®, warfarin, or any anticoagulant or antiplatelet agent and vitamin E might increase the risk of bleeding. Vitamin E might increase metabolism of drugs metabolized by cytochrome P450 3A4 including calcium channel blockers, omeprazole, Zofran®, Prozac®.

Supplement Interactions: Concomitant use of vitamin E with herbs that have anticoagulant properties such as garlic, clove, and ginkgo may increase the risk of bleeding. Vitamin E may also decrease the absorption of beta-carotene, antagonize the effects of vitamin K supplementation, and affect the absorption and utilization of vitamin A. Furthermore, high intakes of omega-3 fatty acids may increase the requirement for vitamin E.

Interaction with Lab Tests: Supplementation with vitamin E at over 400 IU/d may affect Prothrombin Time (PT) and International Normalized Ratios (INR) when taking with anticoagulant medications. For individuals with vitamin K deficiency, PT and INR results may be increased with vitamin

E supplementation. Long-term vitamin E supplementation may lower testosterone levels in older men.

STORAGE

Store in a cool, dry, and dark environment in original sealed container.