# Natural Vitamin E Complex 400 I.U.

With mixed tocopherols

### **DESCRIPTION**

Natural Vitamin E Complex 400 I.U., provided by Douglas Laboratories, contains pure, natural, mixed tocopherols including alpha, beta, gamma and delta tocopherols which assure superior antioxidant protection.

#### **FUNCTIONS**

Vitamin E is the collective term for those eight compounds that have varying levels of vitamin E biological activity. These eight fat soluble compounds include the alpha, beta, gamma, and delta forms of tocopherol and tocotrienol. The most biologically active of this group is alpha tocopherol.

Eight structural isomers of alpha tocopherol are possible, but only the d-alpha tocopherol (RRR-alpha tocopherol) occurs in nature. The other seven isomers have less nutritional activity, and are present only in synthetic vitamin E (dl-alpha tocopherol). Douglas Laboratories Natural Vitamin E Complex 400 I.U. softgels contain only natural isomers of vitamin E, including d-alpha, d-beta, d-gamma, and d-delta tocopherols.

Vitamin E is one of the body's most important antioxidant nutrients. Antioxidants protect healthy cells from oxidative and free radical damage. Free radicals are unstable chemicals formed in the body during metabolism and from exposure to environmental sources, such as air pollution and cigarette smoke. Free radicals are necessary for energy metabolism and immune function, but when an excessive number of free radicals are formed, they can attack healthy cells, especially their membrane lipids, proteins, and nucleic acids. This, in turn, is thought to degrade the structure and function of healthy cellular components.

Vitamin E is an especially valuable antioxidant in the cell membranes, where it prevents oxidation of unsaturated fatty acids by trapping free radicals. This helps stabilize and protect cell membranes, especially red blood cells and tissues sensitive to oxidation, such as the lungs, eyes, and arteries. Vitamin E also protects the liver and other tissues from the free-radical damage of toxicants, such as mercury, lead, ozone, nitrous oxide, carbon tetrachloride, benzene, cresol, and various drugs. Related to its antioxidant properties, vitamin E is important for normal immune function, and many studies show that it prevents lipid peroxidation of blood lipoproteins, such as LDL-cholesterol.

Intestinal absorption of vitamin E is associated with fat absorption. Some dietary fat must be present for efficient vitamin E absorption to occur. Studies show that natural d alpha tocopherol is more efficiently absorbed and has significantly higher bioavailability than synthetic dl-alpha tocopherol. Once absorbed, vitamin E is transported into the circulatory system via chylomicrons, and then transferred to VLDL, LDL and HDL particles. Tissues slowly accumulate vitamin E from these plasma lipoproteins. Liver and adipose tissues have the highest concentrations, but muscle also accounts for a large proportion of vitamin E stores in the body.

# **INDICATIONS**

Natural Vitamin E Complex 400 I.U. may be a useful dietary supplement for those who wish to increase their daily intake of vitamin E in its potent, natural form.

# FORMULA (#81316)

#### SUGGESTED USE

Adults take 1 softgel daily or as directed by physician.

# Natural Vitamin E Complex 400 I.U.

With mixed tocopherols

### SIDE EFFECTS

No adverse side effects have been reported.

### **STORAGE**

Store in a cool, dry place, away from direct light. Keep out of reach of children.

# **REFERENCES**

Ascherio A, Rimm EB, Hernan MA, et al. Relation of consumption of vitamin E, vitamin C, and carotenoids to risk for stroke among men in the United States. Ann Intern Med 1999;130:963-70.

Brigelius-Flohe R, Traber MG. Vitamin E: function and metabolism. Faseb J 1999;13:1145-55.

Davey PJ, Schulz M, Gliksman M, et al. Cost-effectiveness of vitamin E therapy in the treatment of patients with angiographically proven coronary narrowing (CHAOS trial). Cambridge Heart Antioxidant Study. Am J Cardiol 1998;82:414-7.

Devaraj S, Li D, Jialal I. The effects of alpha tocopherol supplementation on monocyte function. Decreased lipid oxidation, interleukin 1 beta secretion, and monocyte adhesion to endothelium. J Clin Invest 1996;98:756-63.

Hartmann A, Niess AM, Grunert-Fuchs M, et al. Vitamin E prevents exercise-induced DNA damage. Mutat Res 1995;346:195-202.

Heck AM, DeWitt BA, Lukes AL. Potential interactions between alternative therapies and warfarin. Am J Health Syst Pharm 2000;57:1221-7; quiz 1228-30.

Jacques PF. The potential preventive effects of vitamins for cataract and age- related macular degeneration. Int J Vitam Nutr Res 1999;69:198-205.

Kimmick GG, Bell RA, Bostick RM. Vitamin E and breast cancer: a review. Nutr Cancer 1997;27:109-17. Meydani SN, Meydani M, Blumberg JB, et al. Assessment of the safety of supplementation with different amounts of vitamin E in healthy older adults. Am J Clin Nutr 1998;68:311-8.

Miller JW. Vitamin E and memory: is it vascular protection? Nutr Rev 2000;58:109-11...

# For more information on Natural Vitamin E Complex 400 I.U. visit douglaslabs.com

† 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.

Manufactured by Douglas Laboratories 600 Boyce Road Pittsburgh, PA 15205 800-245-4440 douglaslabs.com



2

You trust Douglas Laboratories. Your patients trust you.