



## Vitamin E

- Provides Protection Against Free Radical Damage
- Maintains Normal Inflammatory Balance
- Promotes Cardiovascular and Nervous System Health

The Vitamin E formula provides full-spectrum, fat-soluble vitamin E to reduce the effects of free radical activity throughout the body. Natural Vitamin E is formulated to maximize antioxidant protection and provide support for cardiovascular health. The formula includes a blend of mixed tocopherols. Each serving provides 800 IU d-Alpha tocopherol and 400 mg of additional non-alpha tocopherol forms for comprehensive antioxidant protection.

### Overview

Naturally occurring vitamin E refers to a family of fat soluble molecules which include tocopherols. There are four different forms of vitamin E tocopherols: alpha, beta, gamma and delta.<sup>1</sup> The most widely studied forms of vitamin E include alpha tocopherol and gamma tocopherol. Alpha-tocopherol, in its natural d-alpha form, is the form primarily retained in the body and found circulating in the bloodstream. Gamma-tocopherol is the form found most abundantly in food, although heat and oxidation during cooking and processing can destroy it. In the past, most research focused on the role that alpha tocopherol plays; however, new evidence is emerging regarding gamma tocopherol's role in supporting health.<sup>2,3</sup> Through its antioxidant activity, vitamin E has been shown to support cardiovascular, neurological, ocular and immune health.

### Antioxidant Support†

In a study of oxidative stress on human blood cells, mixed tocopherols had a stronger protective effect on lipid peroxidation than alpha-tocopherol alone, due to gamma and delta tocopherols ability to trap and neutralize other free radicals in the cell.<sup>5</sup>

### Immune Support and Inflammatory Balance †

Research has demonstrated that supplementation with vitamin E promotes a healthy immune response. In a study examining vitamin E supplementation in an elderly population, 60 to 800 mg of vitamin E improved several aspects of cell-mediated immunity within six to 12 months.<sup>6</sup> In another study, ingestion of 400 IU of vitamin E for eight months supported immune function by improving macrophage-mediated response.<sup>7</sup> A tocopherol mixture rich in gamma tocopherol has been shown to maintain normal inflammatory balance by reducing oxidative damage, trapping of unique free radicals called reactive nitrogen species, and inhibition of abnormal arachidonic acid metabolism.<sup>8</sup> In animal studies delta tocopherol was more active compared to alpha or gamma tocopherols in supporting cellular integrity, possibly through trapping reactive oxygen and nitrogen species that cause cellular damage.<sup>9</sup>

### Cardiovascular Health †

The oxidation of low-density lipoprotein (LDL) and other lipoproteins can be a major detriment to cardiovascular health. Research has also shown that vitamin E is incorporated into LDLs.<sup>10,11</sup> By supporting antioxidant activity within LDLs, vitamin E helps maintain cholesterol integrity, normal white blood cell activity, and normal inflammatory balance, which is crucial for cardiovascular health.<sup>11,12</sup> A double-blinded study found subjects receiving gamma-tocopherol experienced significant cardiovascular support by maintaining healthy LDL cholesterol levels and normal platelet aggregation.<sup>12</sup>

† 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.

## Directions

1-2 soft gel capsules per day or as recommended by your health care professional.

## Does Not Contain

Gluten, corn, yeast, artificial colors or flavors

## Cautions

If you are pregnant or nursing, consult your physician before taking this product.

<b>Supplement Facts</b> <sup>V2</sup>		
Serving Size 2 Soft Gel Capsules		
Servings Per Container 30 & 60		
<b>2 soft gel capsules contain</b>	<b>Amount Per Serving</b>	<b>% Daily Value</b>
Vitamin E (from 800 IU as d-Alpha Tocopherol)	536 mg	3,573%
<b>Total non alpha tocopherol forms</b>	400 mg	*
d-Beta and d-Gamma tocopherols	272 mg	*
d-Delta tocopherols	92 mg	*
* Daily Value not established		

## References

- Office of Dietary Supplements. Dietary Supplement Fact Sheet: Vitamin E. 2012; Available at: <http://ods.od.nih.gov/factsheets/vitamine/>
- Helzlsouer KJ, Huang HY, Alberg AJ, et al. Association between alpha-tocopherol, gamma-tocopherol, selenium, and subsequent prostate cancer. *J Natl Cancer Inst* 2000 Dec 20;92(24):2018-23.
- Available at: <http://www.berkeley.edu/news/media/releases/97legacy/christen.html>
- Lauridsen C, Jensen SK. alpha-Tocopherol incorporation in mitochondria and microsomes upon supranutritional vitamin E supplementation. *Genes Nutr* Feb 22 2012.
- Liu M, Wallmon A, Olsson-Mortlock C, Wallin R, Saldeen T. Mixed tocopherols inhibit platelet aggregation in humans: potential mechanisms. *Am J Clin Nutr* Mar 2003;77(3):700-706.
- Meydani SN, Meydani M, Blumberg JB, et al. Vitamin E supplementation and in vivo immune response in healthy elderly subjects. A randomized controlled trial. *JAMA* 1997 May 7;277(17):1380-6.
- Tsourelis-Nikita E, Hercogova J, Lotti T, Menchini G. Evaluation of dietary intake of vitamin E in the treatment of atopic dermatitis: a study of the clinical course and evaluation of the immunoglobulin E serum levels. *Int J Dermatol* 2002 Mar;41(3):146-50.

- Yang CS, Lu G, Ju J, Li GX. Inhibition of inflammation and carcinogenesis in the lung and colon by tocopherols. *Ann N Y Acad Sci* Aug 2010;1203:29-34.
- Li GX, Lee MJ, Liu AB, et al. delta-tocopherol is more active than alpha- or gamma-tocopherol in inhibiting lung tumorigenesis in vivo. *Cancer Prev Res (Phila)* Mar 2011;4(3):404-413.
- Higdon, J; Linus Pauling Institute Micronutrient Information Center. Vitamin E. Available at: <http://lpi.oregonstate.edu/infocenter/vitamins/vitaminE/>. Updated November 17, 2011.
- National Institutes of Health. Office of Dietary Supplements. Dietary Supplement Fact Sheet: Vitamin E. <http://ods.od.nih.gov/factsheets/vitamine/>. Reviewed October 11, 2011.
- Singh U, Devaraj S, Jialal I. Vitamin E, oxidative stress, and inflammation. *Annu Rev Nutr* 2005;25:151-74. Review.

† 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.