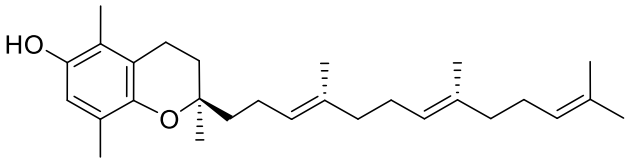
PRODUCT DATA SHEET

beta-Tocotrienol

Catalog number: 2110
Synonyms: [R-(E,E)]-3,4-Dihydro-2,5,8-trimethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol
Source: semisynthetic, plant
Solubility: chloroform, ethyl ether, hexane
CAS number: 490-23-3

Molecular Formula: $C_{28}H_{42}O_2$
Molecular Weight: 411
Storage: -20°C
Purity: TLC, GC, HPLC >98$^+$%, identity confirmed by MS
TLC System: hexane/ethyl ether (90:10 by vol.)
Appearance: liquid



Application Notes:

Vitamin E consists of four tocopherols and four tocotrienols that demonstrate important and far reaching biological activities. These essential lipids contain a common chromanol ring and either a saturated (tocopherol) or unsaturated (tocotrienol) side chain. The eight common vitamin E isoforms (*alpha*-, *beta*-, *gamma*-, and *delta*-tocopherols and *alpha*-, *beta*-, *gamma*-, and *delta*-tocotrienols) are differentiated based on the number and position of methyl groups on the chromanol ring and the presence of a saturated or unsaturated side chain. The vitamin E vitamers are commonly found in vegetables, fruits, seeds, nuts, grains and oils, where they exist in various ratios with each other. The unsaturated side chain in tocotrienols gives them physical properties different from tocopherols, such as an increased ability to cross the cell membrane bilayer (1). Vitamin E has become well known for its role as an antioxidant, in lowering cholesterol and other lipids, as a neuroprotective and anti-cancer agent, and in cardiovascular disease protection. Most vitamin E supplements contain (and many studies use) only *alpha*-tocopherol; However, several of the above biological effects are mostly or exclusively found in the other vitamers, making it critical for them to be included in future research. Indeed, the tocotrienols in general may have greater physiological functions than tocopherols (2) and may even be inhibited by an unbalanced excess of *alpha*-tocopherol supplements (3). Matreya is pleased to offer this highly purified *beta*-tocotrienol standard for your research needs.

Selected References:

1. Ahn, K., et al. (2007) *J Biol Chem*. 282:809-820
2. Kannappan, R., et al. (2010) *J Biol Chem*. 285:33520
3. Tan, B., (2005) *The Journal of the American Neutricutical Association* 8(1):35

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