

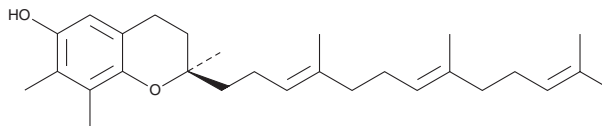
# PRODUCT INFORMATION



## $\gamma$ -Tocotrienol

Item No. 10008494

**CAS Registry No.:** 14101-61-2  
**Formal Name:** (2R)-3,4-dihydro-2,7,8-trimethyl-2-[(3E,7E)-4,8,12-trimethyl-3,7,11-tridecatrien-1-yl]-2H-1-benzopyran-6-ol  
**MF:** C<sub>28</sub>H<sub>42</sub>O<sub>2</sub>  
**FW:** 410.6  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 297 nm  
**Supplied as:** A solution in ethanol  
**Storage:** -20°C  
**Stability:** ≥2 years  
**Item Origin:** Plant/*Elaeis guineensis*



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

$\gamma$ -Tocotrienol is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of  $\gamma$ -tocotrienol in these solvents is approximately 10 mg/ml.

### Description

$\gamma$ -Tocotrienol is a form of vitamin E that has been found in rice bran and has diverse biological activities.<sup>1,2</sup> It reduces cell death induced by hydrogen peroxide, paraquat, S-nitrocysteine, SIN-1 (Item No. 82220), or L-buthionine-(S,R)-sulfoximine (BSO; Item No. 14484) in rat striatal cultures when used at concentrations ranging from 0.1 to 10  $\mu$ M.<sup>2</sup>  $\gamma$ -Tocotrienol (20  $\mu$ M) induces apoptosis in malignant sympathoadrenal (+SA) mouse mammary epithelial cells.<sup>3</sup> *In vivo*,  $\gamma$ -tocotrienol (15, 30, and 150 mg/kg) reduces blood pressure and plasma lipid peroxide levels in spontaneously hypertensive rats.<sup>4</sup>

### References

1. Kamal-Eldin, A. and Appelqvist, L.-Å. The chemistry and antioxidant properties of tocopherols and tocotrienols. *Lipids* **31(7)**, 671-701 (1996).
2. Osakada, F., Hashino, A., Kume, T., et al.  $\alpha$ -Tocotrienol provides the most potent neuroprotection among vitamin E analogs on cultured striatal neurons. *Neuropharmacology* **47(6)**, 904-915 (2004).
3. Shah, S. and Sylvester, P.W. Tocotrienol-induced caspase-8 activation is unrelated to death receptor apoptotic signaling in neoplastic mammary epithelial cells. *Exp. Biol. Med. (Maywood)* **229(8)**, 745-755 (2004).
4. Newaz, M.A., Yousefipour, Z., Nawal, N., et al. Nitric oxide synthase activity in blood vessels of spontaneously hypertensive rats: Antioxidant protection by  $\gamma$ -tocotrienol. *J. Physiol. Pharmacol.* **54(3)**, 319-327 (2003).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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