

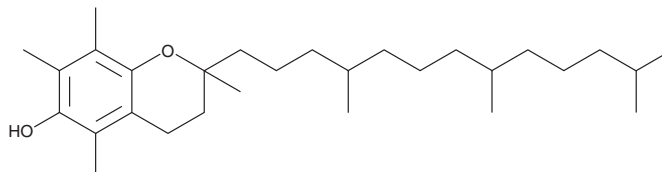
PRODUCT INFORMATION



(±)-α-Tocopherol

Item No. 25985

CAS Registry No.: 10191-41-0
Formal Name: 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-1-benzopyran-6-ol
Synonyms: all-*rac*-α-Tocopherol, DL-α-Tocopherol
MF: C₂₉H₅₀O₂
FW: 430.7
Purity: ≥95%
UV/Vis.: λ_{max}: 292 nm
Supplied as: A neat oil
Storage: 4°C
Stability: ≥4 years



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

Laboratory Procedures

(±)-α-Tocopherol is supplied as a neat oil. A stock solution may be made by dissolving the (±)-α-tocopherol in the solvent of choice, which should be purged with an inert gas. (±)-α-Tocopherol is miscible in organic solvents such as ethanol, DMSO, and dimethyl formamide.

(±)-α-Tocopherol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (±)-α-tocopherol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. (±)-α-Tocopherol has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

(±)-α-Tocopherol is a biologically active form of vitamin E, a lipid-soluble antioxidant that protects cellular membranes from oxidative damage.^{1,2} (±)-α-Tocopherol (20 μM) inhibits brominated diphenyl ether-47-induced increases in reactive oxygen species (ROS) and prostaglandin E₂ (PGE₂; Item No. 14010) production in HTR-8/SVneo cells.³ It also inhibits lipid peroxidation in HepG2 cells (IC₅₀ = 24.5 μM).⁴

References

1. Brigelius-Flohé, R. and Traber, M.G. Vitamin E: Function and metabolism. *FASEB J.* **13**(10), 1145-1155 (1999).
2. van Acker, F.A., Schouten, O., Haenen, G.R., *et al.* Flavonoids can replace α-tocopherol as an antioxidant. *FEBS Letters* **473**(2), 145-148 (2000).
3. Park, H.R. and Loch-Caruso, R. Protective effect of (±)α-tocopherol on brominated diphenyl ether-47-stimulated prostaglandin pathways in human extravillous trophoblasts *in vitro*. *Toxicol. In Vitro* **29**(7), 1309-1318 (2015).
4. Hofer, T., Jørgensen, T.Ø., and Olsen, R.L. Comparison of food antioxidants and iron chelators in two cellular free radical assays: Strong protection by luteolin. *J. Agric. Food Chem.* **62**(33), 8402-8410 (2014).

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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