

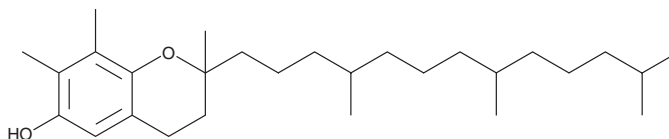
PRODUCT INFORMATION



(±)-γ-Tocopherol

Item No. 27193

CAS Registry No.: 7616-22-0
Formal Name: 3,4-dihydro-2,7,8-trimethyl-2-(4,8,12-trimethyltridecyl)-2H-1-benzopyran-6-ol
Synonyms: 7,8-Dimethyltocol, all-*rac*-γ-Tocopherol, DL-γ-Tocopherol
MF: C₂₈H₄₈O₂
FW: 416.7
Purity: ≥95%
Supplied as: A solution in hexane
Storage: -20°C
Stability: ≥2 years
Item Origin: Synthetic



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

Laboratory Procedures

(±)-γ-Tocopherol is supplied as a solution in hexane. A stock solution may be made by dissolving the (±)-γ-tocopherol in the solvent of choice, which should be purged with an inert gas. (±)-γ-Tocopherol is soluble in chloroform, ethanol, and methanol.

Description

(±)-γ-Tocopherol is a form of vitamin E with antioxidant and anti-inflammatory properties.¹⁻³ It traps and detoxifies reactive nitrogen oxide species, including nitrogen dioxide, in cell-free assays.^{1,2} It also reduces the synthesis of prostaglandin E₂ (PGE₂; Item No. 14010) induced by LPS in RAW 264.7 macrophages and by IL-1β in A549 cells (IC₅₀s = 7.5 and 4 μM, respectively).³ (±)-γ-Tocopherol (10 μM) inhibits LPS-induced nitrite release and inducible nitric oxide synthase (iNOS) expression in RAW 264.7 cells and reduces COX-2 activity in A549 cells pretreated with IL-1β. Serum levels of (±)-γ-tocopherol are decreased in patients with cardiovascular disease.¹

References

- Jiang, Q., Christen, S., Shigenaga, M.K., *et al.* γ-Tocopherol, the major form of vitamin E in the US diet, deserves more attention. *Am. J. Clin. Nutr.* **74(6)**, 714-722 (2001).
- Cooney, R.V., Franke, A.A., Harwood, P.J., *et al.* γ-Tocopherol detoxification of nitrogen dioxide: Superiority to α-tocopherol. *Proc. Natl. Acad. Sci. U.S.A.* **90(5)**, 1771-1775 (1993).
- Jiang, Q., Elson-Schwab, I., Courtemanche, C., *et al.* γ-Tocopherol and its major metabolite, in contrast to α-tocopherol, inhibit cyclooxygenase activity in macrophages and epithelial cells. *Proc. Natl. Acad. Sci. U.S.A.* **97(21)**, 11494-11499 (2000).

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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