

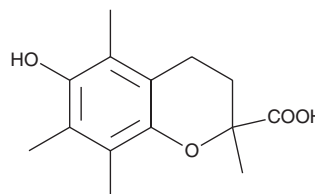
PRODUCT INFORMATION



Trolox

Item No. 10011659

CAS Registry No.: 53188-07-1
Formal Name: 3,4-dihydro-6-hydroxy-2,5,7,8-tetramethyl-2H-1-benzopyran-2-carboxylic acid
Synonym: 6-hydroxy-2,5,7,8-tetramethylchroman-2-Carboxylic Acid
MF: C₁₄H₁₈O₄
FW: 250.3
Purity: ≥98%
UV/Vis.: λ_{max}: 291 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Trolox is supplied as a crystalline solid. A stock solution may be made by dissolving the trolox in the solvent of choice, which should be purged with an inert gas. Trolox is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of trolox in DMSO is approximately 20 mg/ml and approximately 30 mg/ml in ethanol and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of trolox can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of trolox in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Trolox is a cell-permeable, water-soluble derivative of vitamin E with potent antioxidant properties. It is commonly used as a standard or positive control in antioxidant assays.^{1,2} In addition, trolox is used to assess the role of oxidative injury in processes like neuronal cell death and aging.^{3,4} Trolox is effective as adjunctive therapy in the treatment of certain cancers.⁵

References

1. Cos, P., Hermans, N., Calomme, M., *et al.* Comparative study of eight well-known polyphenolic antioxidants. *J. Pharm. Pharmac.* **55**, 1291-1297 (2003).
2. Tadolini, B., Juliano, C., Piu, L., *et al.* Resveratrol inhibition of lipid peroxidation. *Free Radic. Res.* **33**, 105-114 (2000).
3. Jang, H.J., Hwang, S., Cho, K.Y., *et al.* Taxol induces oxidative neuronal cell death by enhancing the activity of NADPH oxidase in mouse cortical cultures. *Neurosci. Lett.* **443**, 17-22 (2008).
4. Benedetti, M.G., Foster, A.L., Vantipalli, M.C., *et al.* Compounds that confer thermal stress resistance and extended lifespan. *Experimental Gerontology* **43**, 882-891 (2008).
5. Diaz, Z., Laurenzana, A., Mann, K.K., *et al.* Trolox enhances the anti-lymphoma effects of arsenic trioxide, while protecting against liver toxicity. *Leukemia* **21**, 2117-2127 (2007).

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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