

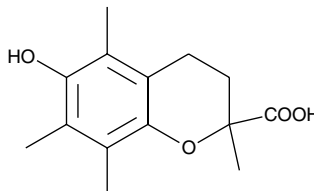
# Product Information



## 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:** C<sub>14</sub>H<sub>18</sub>O<sub>4</sub>  
**FW:** 250.3  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 291 nm



### Laboratory Procedures

For long term storage, we suggest that trolox be stored as supplied at -20°C. It should be stable for at least two years.

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

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.

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.<sup>1,2</sup> In addition, trolox is used to assess the role of oxidative injury in processes like neuronal cell death and aging.<sup>3,4</sup> Trolox is effective as adjunctive therapy in the treatment of certain cancers.<sup>5</sup>

### 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).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/10011659](http://www.caymanchem.com/catalog/10011659)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

[custserv@caymanchem.com](mailto:custserv@caymanchem.com)

#### Web

[www.caymanchem.com](http://www.caymanchem.com)