

Small Molecules

Trolox

Vitamin E analog

Catalog #100-0572
100-0573

250 mg
1 g



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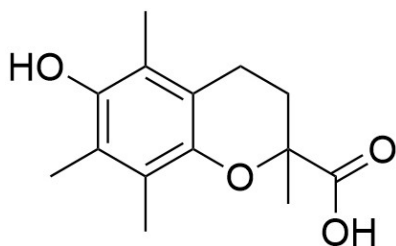
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Product Description

Trolox is a cell-permeable and hydrophilic analog of vitamin E (Choe et al.; Lee et al.). In mice, Trolox has been shown to suppress osteoclast formation by downregulating receptor activator of NF- κ B ligand (RANKL) induction and c-Fos expression (Lee et al.). Trolox also prevents cisplatin-induced apoptosis in renal epithelial cells (Xiao et al.).

Molecular Name:	Trolox
Alternative Names:	6-Hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid
CAS Number:	53188-07-1
Chemical Formula:	C ₁₄ H ₁₈ O ₄
Molecular Weight:	250.3 g/mol
Purity:	≥ 98%
Chemical Name:	3,4-dihydro-6-hydroxy-2,5,7,8-tetramethyl-2H-1-benzopyran-2-carboxylic acid
Structure:	



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage, store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	<ul style="list-style-type: none">• PBS (pH 7.2) ≤ 11 mM• DMSO ≤ 75 mM• Absolute ethanol ≤ 75 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 10 mg in 4.00 mL of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Published Applications

DIFFERENTIATION

· Induces beta-like cell differentiation from human embryonic stem cells (Petersen et al.).

CANCER RESEARCH

· Enhances arsenic-mediated apoptosis in myeloma and breast cancer cells (Diaz et al.).

References

Choe MS et al. (2019) Trolox-induced cardiac differentiation is mediated by the inhibition of Wnt/ β -catenin signaling in human embryonic stem cells. *Cell Biol Int*. Epub ahead of print, DOI:10.1002/cbin.11200.

Diaz Z et al. (2005) Trolox selectively enhances arsenic-mediated oxidative stress and apoptosis in APL and other malignant cell lines. *Blood* 105(3): 1237–45.

Lee J-H et al. (2009) Trolox prevents osteoclastogenesis by suppressing RANKL expression and signaling. *J Biol Chem* 284(20): 13725–34.

Petersen MBK et al. (2017) Single-cell gene expression analysis of a human ESC model of pancreatic endocrine development reveals different paths to β -cell differentiation. *Stem Cell Reports* 9(4): 1246–61.

Xiao T et al. (2003) Possible involvement of oxidative stress in cisplatin-induced apoptosis in LLC-PK1 cells. *J Toxicol Environ Health A* 66(5): 469–79.

Related Small Molecules

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