

Certificate of Analysis

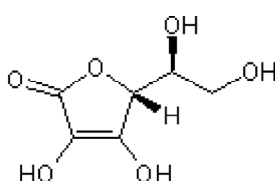
www.tocris.com

Product Name: L-Ascorbic acid
CAS Number: 50-81-7
IUPAC Name: 3-Oxo-L-gulofuranolactone

Catalog No.: 4055
Batch No.: 2
EC Number: 200-066-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₆H₈O₆.
Batch Molecular Weight: 176.12
Physical Appearance: White solid
Solubility: water to 500 mM
Storage: Store at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = +20 (Concentration = 10, Solvent = Water)
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	40.92	4.58	
Found	41.11	4.55	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

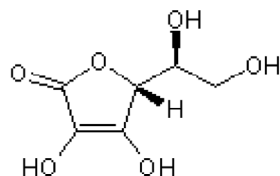
L-Ascorbic acid is an inhibitor of Ca_v3.2 channels (IC₅₀ = 6.5 μM); displays no effect on Ca_v3.1 or Ca_v3.3 channels heterologously expressed in HEK 293 cells. Also enhances the generation of induced pluripotent stem cells (iPSCs) from mouse and human somatic cells by increasing reprogramming efficiency. Commonly used antifade reagent in live cell microscopy. Used for the generation of midbrain dopaminergic neurons from hPSCs or CiPSCs from MEFs (see protocols below). Naturally occurring antioxidant. L-Ascorbic acid synthesized to Ancillary Material Grade also available. For more information about how L-Ascorbic acid may be used, see... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

Batch Molecular Formula: C₆H₈O₆.
Batch Molecular Weight: 176.12
Physical Appearance: White solid

Minimum Purity: ≥99%

Batch Molecular Structure:



References:

Cordes et al (2011) Mechanisms and advancement of antifading agents for fluorescence microscopy and single-molecule spectroscopy. *Phys.Chem.Chem.Phys.* **13** 6699. PMID: 21311807.
Esteban et al (2010) Vitamin C enhances the generation of mouse and human induced pluripotent stem cells. *Cell Stem Cell* **6** 71. PMID: 20036631.
Nelson et al (2007) Molecular mechanisms of subtype-specific inhibition of neuronal T-type calcium channels by ascorbate. *J.Neurosci.* **27** 12577. PMID: 18003836.

Storage: Store at RT

Solubility & Usage Info:

water to 500 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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