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DATASHEET

L-Ascorbic acid

Product overview

Name	L-Ascorbic acid
Cat No	HB1238
Alternative names	L-Ascorbate
Biological action	Activator
Purity	>99%
Description	Antioxidant. Enhances iPSC generation and increases reprogramming efficiency. Supports mesenchymal stem cell proliferation.

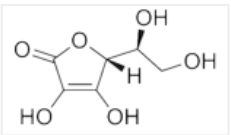
Biological Data

Biological description	Naturally occurring antioxidant. Enhances iPSC generation and increases reprogramming efficiency. Also supports mesenchymal stem cell proliferation and promotes differentiation of osteoblasts from human / mouse MSCs and mESCs. Also a $Ca_v3.2$ channel inhibitor (IC_{50} = 6.5 µM) which exhibits little or no activity at $Ca_v3.1$ and $Ca_v3.3$ channels. Commonly used with dexamethasone and β-Gly for osteogenic differentiation of stem cells.

Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in water (500mM) and in DMSO (100mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	3-Oxo-L-gulofuranolactone
Molecular Weight	176.12
Chemical structure	
Molecular Formula	$C_6H_8O_6$
CAS Number	50-81-7
PubChem identifier	54670067
SMILES	C([C@@H]([C@@H]1C(=C(C(=O)O1)O)O)O)O
InChi	InChI=1S/C6H8O6/c7-1-2(8)5-3(9)4(10)6(11)12-5/h2,5,7-10H,1H2/t2-,5+/m0/s1
InChiKey	CIWBSHSKHKDKBQ-JLAZNSOCSA-N
MDL number	MFCD00064328

References

Molecular mechanisms of subtype-specific inhibition of neuronal T-type calcium channels by ascorbate.

Nelson MT *et al* (2007) J Neurosci 27(46)
PubMedID 18003836

Vitamin C as an antioxidant: evaluation of its role in disease prevention.

Padayatty SJ *et al* (2003) J Am Coll Nutr 22(1)
PubMedID 12569111

Protective action of an anti-oxidant (L-Ascorbic acid) against genotoxicity and cytotoxicity in mice during p-DAB-induced hepatocarcinogenesis.

Surjyo B *et al* (2004) Indian J Cancer 41(2)
PubMedID 15318012