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DATASHEET

L-Ascorbic acid

Product overview

Name L-Ascorbic acid Cat No HB1238 **Alternative names** L-Ascorbate Activator **Biological action 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 $Ca_v 3.2$ channel inhibitor ($IC_{50} = 6.5 \mu M$) which exhibits little or no activity at $Ca_v 3.1$ and $Ca_v 3.3$ channels.

Commonly used with dexamethasone and β-Gly for osteogenic differentiation of stem cells.

Solubility & Handling

Solubility overview Storage instructions Storage of solutions

Shipping Conditions

Important

Soluble in water (500mM) and in DMSO (100mM)

Room temperature

Prepare and use solutions on the same day if possible. Store solutions at -20 °C for up to one month if

storage is required. Equilibrate to RT and ensure the solution is precipitate free before use.

Stable for ambient temperature shipping. Follow storage instructions on receipt.

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 **Molecular Weight Chemical structure** 3-Oxo-L-gulofuranolactone 176.12

Molecular Formula $C_6H_8O_6$ 50-81-7 **CAS Number PubChem identifier** 54670067

SMILES C([C@@H]([C@@H]1C(=C(C(=O)O1)O)O)O)InChi

InChl=1S/C6H8O6/c7-1-2(8)5-3(9)4(10)6(11)12-5/h2,5,7-10H,1H2/t2-,5+/m0/s1

CIWBSHSKHKDKBQ-JLAZNSOCSA-N InChiKey

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