

Certificate of Analysis

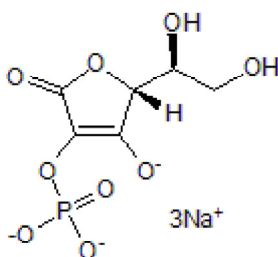
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Product Name: 2-Phospho-L-ascorbic acid trisodium salt
CAS Number: 66170-10-3
IUPAC Name: 2-(Dihydrogen phosphate)-L-ascorbic acid sodium salt

Catalog No.: 5778 **Batch No.:** 3

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₆H₆Na₃O₉P.2H₂O
Batch Molecular Weight: 358.08
Physical Appearance: White solid
Solubility: water to 100 mM
Storage: Desiccate at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.3% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	20.13	2.82	0
Found	19.74	2.36	0

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

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Description:

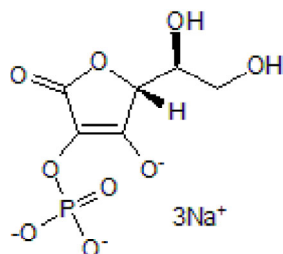
2-Phospho-L-ascorbic acid trisodium salt is a stable ascorbic acid derivative used in cell culture; in combination with FGF-2, maintains differentiation potential in bone marrow-derived mesenchymal stem cells (MSC) through increased expression of HGF. Also exhibits synergistic protection of hMSCs under oxidative stress in combination with N-acetylcysteine (Cat. No. 5619).

Physical and Chemical Properties:

Batch Molecular Formula: C₆H₆Na₃O₉P·2H₂O
Batch Molecular Weight: 358.08
Physical Appearance: White solid

Minimum Purity: ≥95%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 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.

References:

- Bae *et al*** (2015) L-ascorbic acid 2-phosphate and fibroblast growth factor-2 treatment maintains differentiation potential in bone marrow-derived mesenchymal stem cells through expression of hepatocyte growth factor. *Growth Factors* **33** 71. PMID: 25714612.
- Li *et al*** (2015) Synergistic protection of N-acetylcysteine and ascorbic acid 2-phosphate on human mesenchymal stem cells against mitoptosis, necroptosis and apoptosis. *Sci.Rep.* **5** 9819. PMID: 25909282.
- Falcon *et al*** (2014) An *in vitro* cord formation assay identifies unique vascular phenotypes associated with angiogenic growth factors. *PLoS One* **9** e106901. PMID: 25210890.

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