

**Product Name:** 2-Phospho-L-ascorbic acid trisodium salt

**Catalog No.:** 5778

**Batch No.:** 2

CAS Number: 66170-10-3

IUPAC Name: 2-(Dihydrogen phosphate)-L-ascorbic acid sodium salt

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>6</sub>H<sub>6</sub>Na<sub>3</sub>O<sub>9</sub>P.2½H<sub>2</sub>O

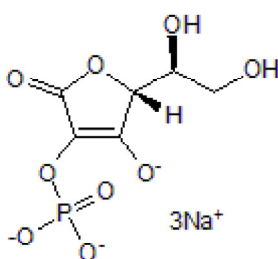
**Batch Molecular Weight:** 362.58

**Physical Appearance:** White solid

**Solubility:** water to 100 mM

**Storage:** Desiccate at RT

**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 98.8 % purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Optical Rotation:** [α]<sub>D</sub> = +56.7 (Concentration = 1, Solvent = Water)

<b>Microanalysis:</b>		Carbon	Hydrogen	Nitrogen
	Theoretical	19.88		2.92
	Found	19.32		3.06

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:**

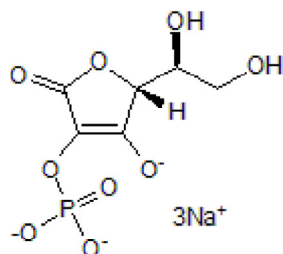
Batch Molecular Formula: C<sub>6</sub>H<sub>6</sub>Na<sub>3</sub>O<sub>9</sub>P.2½H<sub>2</sub>O

Batch Molecular Weight: 362.58

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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