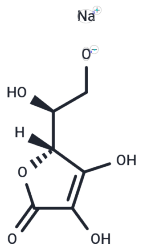
# Data Sheet (Cat.No.T6674)

TargetMol

## L-Ascorbic acid sodium salt

### Chemical Properties



CAS No. : 134-03-2

Formula: C6H7NaO6

Molecular Weight: 198.11

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

### Biological Description

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| Description | L-Ascorbic acid sodium salt (Vitamin C sodium salt) is a more bioavailable form of vitamin C that is an alternative to taking ascorbic acid as a supplement. |
| Targets(IC50) | Apoptosis,Calcium Channel,Reactive Oxygen Species,Endogenous Metabolite |
| In vitro | Sodium ascorbate has a growth inhibiting action only at high concentrations in cultured human neoplastic cell lines MCF-7 (breast carcinoma), KB (oral epidermoid carcinoma), and AN3-CA (endometrial adenocarcinoma). Sodium ascorbate combined with vitamin K3 demonstrates a synergistic inhibition of cell growth at 10 to 50 times lower concentrations in cultured human neoplastic cell lines MCF-7, KB, and AN3-CA, at this level separately given vitamins are not toxic. This tumor cell growth inhibitory effect is completely suppressed by the addition of catalase to the culture medium containing vitamins C and K3, suggesting an excessive production of hydrogen peroxide as being implied in mechanisms responsible for the above-mentioned effects. [1] Sodium ascorbate combined with vitamin K3 results in a synergistic effect on growth inhibition in cultured human endometrial adenocarcinoma (AN3CA) cells. [2] Sodium ascorbate results in a rapid increase in the intracellular concentration of Ca2+ ions and subsequent apoptotic cell death in HL-60 cells, characterized by cell shrinkage, nuclear fragmentation and cleavage of internucleosomal DNA to yield fragments that are multiples of 180-200 base pairs, are induced. [3] Sodium ascorbate (100 μM) induces DNA single-strand breaks in human cells, Fibroblasts and Molt-4 cells are significantly more sensitive than lymphocytes. Sodium ascorbate (50 μM) results in significant cell loss in Molt-4 cells, but not in lymphocyte and fibroblast cultures. [4] |
| In vivo | Tg rats treated with sodium?L-ascorbate show a higher incidence of carcinoma (29.6%), compared to those without sodium?L-ascorbate (15.4%). Independent of the sodium?L-ascorbate treatment, transgenic rats exhibit various kinds of malignant tumors in various organs[5]. After 12 weeks of PEITC-treatment, both simple hyperplasia and papillary or nodular (PN) hyperplasia have developed in all animals, but the majority of these lesions have disappeared at week 48, irrespective of the sodium?L-ascorbate-treatment. The same lesions after 24 weeks of PEITC-treatment have progressed to dysplasia and carcinoma, in a small number of cases by week 48, but enhancement by the sodium?L-ascorbate-treatment is evident only with simple hyperplasias and PN hyperplasias in rats[6]. |

## Solubility Information

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|---|---|
| Solubility | DMSO: 6.25 mg/mL (31.39 mM),Sonication is recommended.<br>H2O: 198.9 mM,Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 5.0477 mL | 25.2385 mL | 50.477 mL |
| 5 mM | 1.0095 mL | 5.0477 mL | 10.0954 mL |
| 10 mM | 0.5048 mL | 2.5239 mL | 5.0477 mL |
| 50 mM | 0.101 mL | 0.5048 mL | 1.0095 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Noto V, et al. Cancer, 1989, 63(5), 901-906.
De Loecker W, et al. Anticancer Res, 1993, 13(1), 103-106.
Sakagami H, et al. Life Sci, 1996, 58(14), 1131-1138.
Singh NP, et al. Mutat Res, 1997, 375(2), 195-203.
Morimura K, et al. Lack of urinary bladder carcinogenicity of sodium L-ascorbate in human c-Ha-ras proto-oncogene transgenic rats. Toxicol Pathol. 2005;33(7):764-7.