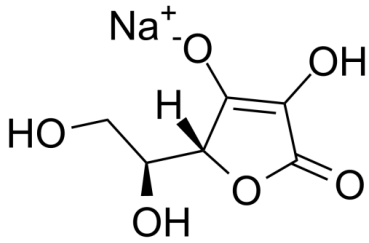
Data Sheet

Product Name:	L-Ascorbic acid sodium salt
Cat. No.:	CS-6063
CAS No.:	134-03-2
Molecular Formula:	C6H7NaO6
Molecular Weight:	198.11
Target:	Apoptosis; Reactive Oxygen Species
Pathway:	Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Solubility:	H2O : 100 mg/mL (504.77 mM; Need ultrasonic); DMSO : 1 mg/mL (5.05 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

L-Ascorbic acid sodium salt is a more bioavailable form of vitamin C that is an antioxidant agent. **In Vitro:** L-Ascorbic acid sodium salt, a known enhancer of collagen deposition, has also been identified as an inhibitor of elastogenesis[1]. The conditioned medium for B16F10 cells significantly inhibits cell apoptosis induced by sodium L-ascorbate (10 mM), and the effective ingredients in the medium show a relative molecular mass below 5,000[2]. **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[3]. 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[4].

PROTOCOL (Extracted from published papers and Only for reference)

Animal Administration: [3]A total of 40 7-week-old male Tg rats are divided into 2 groups. Twenty-seven (group 1) and 13 (group 2) rats are given a powdered MF diet with or without 5% sodium L-ascorbate, respectively. Similarly, a total of 42 7-week-old male Non-tg rats are divided into 2 groups, and 30 (group 3) and 12 (group 4) animals are given a diet with or without 5% sodium L-ascorbate, respectively.

References:

[1]. Hinek A, et al. Sodium L-ascorbate enhances elastic fibers deposition by fibroblasts from normal and pathologic human skin. J Dermatol Sci. 2014 Sep;75(3):173-82.

[2]. Yang X, et al. Mouse melanoma cell line B16F10-derived conditioned medium inhibits sodium L-ascorbate-induced B16F10 cell apoptosis. Nan Fang Yi Ke Da Xue Xue Bao. 2012 Feb;32(2):146-50.

[3]. 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.

[4]. Takagi H, et al. Limited tumor-initiating activity of phenylethyl isothiocyanate by promotion with sodium L-ascorbate in a rat two-stage urinary bladder carcinogenesis model. Cancer Lett. 2005 Mar 10;219(2):147-53.

CAIndexNames:

L-Ascorbic acid, sodium salt (1:1)

SMILES:

[O-]C([C@@]1([H])[C@H](CO)O)=C(O)C(O1)=O.[Na+]

Caution: Product has not been fully validated for medical applications. For research use only.

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