For Research Use Only

L-Ascorbic acid sodium salt

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Catalog Number: CM00502

产品信息

Catalog Number:
CM00502

CAS号:
134-03-2

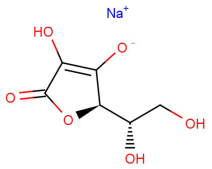
分子式:
$C_6H_8NaO_6$

主要靶点:
Apoptosis|Calcium Channel|Endogenous Metabolite|Reactive Oxygen Species|Others

主要通路:
NF-κB信号通路|代谢|离子通道|其他|免疫与炎症|凋亡

分子量:
199.11

溶解度:
DMSO:10 mM,H2O:198.9 mM



体外活性

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]

体内活性

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].

描述

Sodium Ascorbate is a more bioavailable form of vitamin C that is an alternative to taking ascorbic acid as a supplement.

储存

Powder: -20°C for 3 years | In solvent: -80°C for 2 years