



# SZABO SCANDIC

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### Zuschläge

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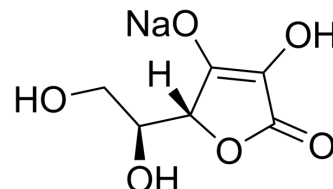
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## L-Ascorbic acid sodium salt

|                    |                                                                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Cat. No.:          | HY-B0166A                                                                                                                                          |
| CAS No.:           | 134-03-2                                                                                                                                           |
| Molecular Formula: | C <sub>6</sub> H <sub>7</sub> NaO <sub>6</sub>                                                                                                     |
| Molecular Weight:  | 198.11                                                                                                                                             |
| Target:            | Reactive Oxygen Species; Apoptosis; Calcium Channel; Endogenous Metabolite                                                                         |
| Pathway:           | Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Apoptosis; Membrane Transporter/Ion Channel; Neuronal Signaling                         |
| Storage:           | 4°C, sealed storage, away from moisture and light<br>* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light) |



### SOLVENT & SOLUBILITY

|          |                                                                                                          |               |           |            |
|----------|----------------------------------------------------------------------------------------------------------|---------------|-----------|------------|
| In Vitro | H <sub>2</sub> O : 100 mg/mL (504.77 mM; Need ultrasonic)<br>DMSO : 1 mg/mL (5.05 mM; Need ultrasonic)   |               |           |            |
|          | Preparing Stock Solutions                                                                                | Mass          | 1 mg      | 5 mg       |
|          |                                                                                                          | Solvent       | 1 mg      | 5 mg       |
|          |                                                                                                          | Concentration | 1 mg      | 5 mg       |
|          |                                                                                                          | 1 mM          | 5.0477 mL | 25.2385 mL |
| In Vivo  | 1. Add each solvent one by one: PBS<br>Solubility: 50 mg/mL (252.39 mM); Clear solution; Need ultrasonic | 5 mM          | 1.0095 mL | 5.0477 mL  |
|          |                                                                                                          | 10 mM         | 0.5048 mL | 2.5239 mL  |
|          |                                                                                                          |               |           |            |
|          |                                                                                                          |               |           |            |

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

|                           |                                                                                                                                                                                                                                                                                                                                                            |                      |                             |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------------------|
| Description               | L-Ascorbic acid sodium salt (Sodium ascorbate), an electron donor, is an endogenous antioxidant agent. L-Ascorbic acid sodium salt selectively inhibits Ca <sub>v</sub> 3.2 channels with an IC <sub>50</sub> of 6.5 μM. L-Ascorbic acid sodium salt is also a collagen deposition enhancer and an elastogenesis inhibitor <sup>[1][2][3]</sup> .          |                      |                             |
| IC <sub>50</sub> & Target | T-type calcium channel                                                                                                                                                                                                                                                                                                                                     | Microbial Metabolite | Human Endogenous Metabolite |
| In Vitro                  | The conditioned medium for B16F10 cells significantly inhibits cell apoptosis induced by L-Ascorbic acid sodium salt (Sodium L-ascorbate) (10 mM), and the effective ingredients in the medium show a relative molecular mass below 5,000 <sup>[4]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only. |                      |                             |
| In Vivo                   | Tg rats treated with L-Ascorbic acid sodium salt (Sodium L-ascorbate) show a higher incidence of carcinoma (29.6%),                                                                                                                                                                                                                                        |                      |                             |

compared to those without L-Ascorbic acid sodium salt (15.4%). Independent of the L-Ascorbic acid sodium salt treatment, transgenic rats exhibit various kinds of malignant tumors in various organs<sup>[5]</sup>. 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 L-Ascorbic acid sodium salt-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 L-Ascorbic acid sodium salt-treatment is evident only with simple hyperplasias and PN hyperplasias in rats<sup>[6]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## PROTOCOL

### Animal Administration <sup>[3]</sup>

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. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Nat Immunol. 2022 Dec 21.
- Mil Med Res. 2020 Nov 1;7(1):52.
- Redox Biol. 2022 Aug;54:102392.
- Sci China Life Sci. 2018 Oct;61(10):1151-1167.
- Biomed Pharmacother. September 2022, 113558.

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## 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.
- [5]. Aleksander Hinek, 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.
- [6]. Michael T Nelson, et al. Molecular mechanisms of subtype-specific inhibition of neuronal T-type calcium channels by ascorbate. J Neurosci. 2007 Nov 14;27(46):12577-83.

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

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