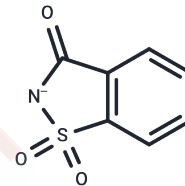


Saccharin sodium

Chemical Properties

CAS No. :	128-44-9
Formula:	C7H4NNaO3S
Molecular Weight:	205.16
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Na⁺

Biological Description

Description	Saccharin sodium is a nonnutritive artificial sweetener. Saccharin sodium is widely applied in the manufacturing of various food products and pharmaceuticals, offering consistent sweetness without caloric contribution, supporting dietary studies, formulation development, and industrial applications in food and pharmaceutical sciences.
Targets(IC50)	Others
In vitro	Saccharin sodium (0.5 mM, 2.5 mM, and 5 mM) exhibits varying degrees of antibacterial activity against different bacterial strains, particularly demonstrating significant inhibitory effects against <i>Staphylococcus vitis vinifera</i> , <i>Klebsiella pneumoniae</i> , and <i>Pseudomonas aeruginosa</i> [5].
In vivo	In C57BL/6Jrj wild-type mice, 0.1 mg/mL Saccharin sodium was supplemented through drinking water. The experiment was divided into a therapeutic model (Saccharin sodium administration initiated 3 days after acute DSS colitis induction) and a preventive model (5-week Saccharin sodium supplementation prior to chronic DSS colitis induction). Results demonstrated that Saccharin sodium administration via drinking water significantly reduced fecal bacterial load, altered gut microbiota composition (e.g., increased Bacteroidetes and decreased Firmicutes), and effectively alleviated DSS-induced colitis severity, as evidenced by reduced disease activity index, decreased expression of inflammatory markers, and attenuated tissue damage [5].

Solubility Information

Solubility	H2O: 140 mg/mL (682.39 mM), Sonication is recommended. DMSO: Soluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.8742 mL	24.3712 mL	48.7424 mL
5 mM	0.9748 mL	4.8742 mL	9.7485 mL
10 mM	0.4874 mL	2.4371 mL	4.8742 mL
50 mM	0.0975 mL	0.4874 mL	0.9748 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

- Zhao S, et al. Water-compatible surface imprinting of 'Saccharin sodium' on silica surface for selective recognition and detection in aqueous solution. *Talanta*. 2015 Nov 1;144:717-25.
- Ha MS, et al. Assessment of Korean consumer exposure to sodium saccharin, aspartame and stevioside. *Food Addit Contam Part A Chem Anal Control Expo Risk Assess*. 2013;30(7):1238-47.
- Zhang G, et al. Binding characteristics of sodium saccharin with calf thymus DNA in vitro. *J Agric Food Chem*. 2014 Jan 29;62(4):991-1000.
- Jamal MA, et al. Volumetric and acoustical behaviour of sodium saccharin in aqueous system over temperature range (20.0-45.0)°C. *Food Chem*. 2015 Apr 15;173:551-6.
- Sünderhauf A, et al. Saccharin Supplementation Inhibits Bacterial Growth and Reduces Experimental Colitis in Mice. *Nutrients*. 2020 Apr 17;12(4). pii: E1122.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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