

## 3'-Sialyllactose sodium

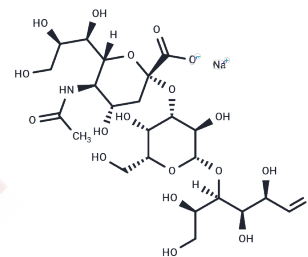
### Chemical Properties

CAS No. : 128596-80-5

Formula: C<sub>23</sub>H<sub>38</sub>NNaO<sub>19</sub>

Molecular Weight: 655.53

Storage: Keep away from moisture, Keep away from direct sunlight  
 Powder: -20°C for 3 years | In solvent: -80°C for 1 year  
*Actual storage temperature shall be subject to the COA.*



### Biological Description

Description	3'-Sialyllactose sodium is a prebiotic with anti-inflammatory activity that maintains immune homeostasis. 3'-Sialyllactose sodium reduces stressor-induced anxiety-like behaviors and can be used in studies of inflammation and arthritis.
Targets(IC50)	NF-κB
In vitro	For 24-36 hours at concentrations ranging from 0 to 250 μM, 3'-Sialyllactose sodium promotes and restores Col2a1 synthesis, accumulates extracellular sulphated proteoglycan, and inhibits the effect of inflammatory cytokines[1]. In chondrocytes, 3'-Sialyllactose sodium (0-250 μM; 24 hours) activates the expression of Sox9 and inhibits NF-κB activation[3]. In the presence or absence of metabolic activation, 3'-Sialyllactose sodium (0-5000 μg/plate) shows no mutagenic effect and does not exhibit evident growth inhibition and deposition in all strains[1]. At a concentration of 1250 μg/mL, 3'-Sialyllactose sodium induces no chromosomal aberrations and demonstrates a non-clastogenic effect in either the presence or absence of metabolic activation[1].
In vivo	For 6 weeks, mice were orally administered 3'-Sialyllactose sodium at doses of 10-100 mg/kg three times a week, protecting them against cartilage destruction from osteoarthritis[3]. A single oral administration of 3'-Sialyllactose sodium at doses of 500, 1000, and 2000 mg/kg induces no micronuclei in the bone marrow cells of mice[1]. In male and female beagle dogs, the maximum tolerance dose (MTD) of 3'-Sialyllactose sodium, given orally at doses ranging from 500 to 1000 to 2000 mg/kg at 4-day intervals, is greater than 2000 mg/kg[3]. 3'-Sialyllactose sodium demonstrates a lethal dose (LD50) above 20 g/kg bw, which is the highest tested dose[1].

### Solubility Information

Solubility	DMSO: 5 mg/mL (7.63 mM), Sonication is recommended. H <sub>2</sub> O: 145 mg/mL (221.2 mM), Sonication is recommended. PBS (pH 7.2): 10 mg/mL (15.25 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	1.5255 mL	7.6274 mL	15.2548 mL
5 mM	0.3051 mL	1.5255 mL	3.051 mL
10 mM	0.1525 mL	0.7627 mL	1.5255 mL
50 mM	0.0305 mL	0.1525 mL	0.3051 mL

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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

- Kim D, et al. Toxicological evaluation of 3'-sialyllactose sodium salt. Regul Toxicol Pharmacol. 2018 Apr;94:83-90.
- Kang LJ, et al. 3'-Sialyllactose prebiotics prevents skin inflammation via regulatory T cell differentiation in atopic dermatitis mouse models. Sci Rep. 2020 Mar 27;10(1):5603.
- Jeon J, et al. 3'-Sialyllactose protects against osteoarthritic development by facilitating cartilage homeostasis. J Cell Mol Med. 2018 Jan;22(1):57-66.

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