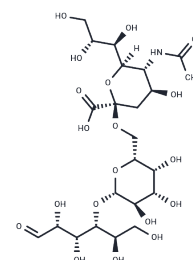


6'-Sialyllactose

Chemical Properties

CAS No. :	35890-39-2
Formula:	C ₂₃ H ₃₉ N ₃ O ₁₉
Molecular Weight:	633.55
Storage:	Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	6'-Sialyllactose (6'-SL) is one of the most predominant human milk oligosaccharides (HMOs) with significant prebiotic activity, promoting the growth of beneficial bacteria (e. g., Bifidobacterium and Lactobacillus) while inhibiting harmful pathogens. 6'-SL exhibits pleiotropic biological activities: it diminishes stress-induced anxiety via the gut-brain axis, ameliorates benign prostatic hyperplasia by suppressing VEGF-mediated angiogenesis (via Akt-ERK inhibition), and enhances exercise performance by increasing muscle mass and strength. It also reduces the internalization of Pseudomonas aeruginosa in human pneumocytes.
Targets(IC50)	ERK,Akt,Antibacterial,VEGFR
In vitro	6'-Sialyllactose (0-50 μM, 24 h) inhibits DHT-induced HUVEC proliferation and tube formation by downregulating p-Akt/p-ERK and blocking VEGFR-2 signaling. It also reduces Pseudomonas aeruginosa internalization in human pneumocyte models [1][4].
In vivo	In vivo, supplementing mouse diets with 5% 6'-Sialyllactose for 2 weeks significantly diminishes stressor-induced anxiety-like behavior and maintains the number of DCX-positive cells in the hippocampus [2]. In muscle health studies, oral administration of 6'-SL (100 mg/kg, 12 weeks) increases muscle mass and strength, leading to improved exercise endurance [3]. Furthermore, it effectively ameliorates benign prostatic hyperplasia in mice by suppressing angiogenesis [4]

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.5784 mL	7.892 mL	15.7841 mL
5 mM	0.3157 mL	1.5784 mL	3.1568 mL
10 mM	0.1578 mL	0.7892 mL	1.5784 mL
50 mM	0.0316 mL	0.1578 mL	0.3157 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

Mariarosaria Marotta, et al. The predominant milk oligosaccharide 6'-sialyllactose reduces the internalisation of *Pseudomonas aeruginosa* in human pneumocytes. *Journal of Functional Foods* Volume 6, January 2014, Pages 367-373.

Tarr AJ, et al., The prebiotics 3'Sialyllactose and 6'Sialyllactose diminish stressor-induced anxiety-like behavior and colonic microbiota alterations: Evidence for effects on the gut-brain axis. *Brain Behav Immun.* 2015 Nov;50:166-177.

Park EJ, et al., 6'-Sialyllactose Enhances Exercise Performance via Increased Muscle Mass and Strength. *Nutrients.* 2024 Aug 7;16(16):2600.

Kim EY, et al., 6-sialyllactose ameliorates dihydrotestosterone-induced benign prostatic hyperplasia through suppressing VEGF-mediated angiogenesis. *BMB Rep.* 2019 Sep;52(9):560-565.

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