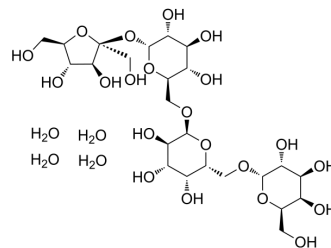


Stachyose tetrahydrate

Cat. No.:	HY-113529
CAS No.:	10094-58-3
Molecular Formula:	C ₂₄ H ₅₀ O ₂₅
Molecular Weight:	738.64
Target:	Apoptosis; Endogenous Metabolite
Pathway:	Apoptosis; Metabolic Enzyme/Protease
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (338.46 mM; Need ultrasonic)
H₂O : 100 mg/mL (135.38 mM; Need ultrasonic)

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.3538 mL	6.7692 mL	13.5384 mL
	5 mM	0.2708 mL	1.3538 mL	2.7077 mL
	10 mM	0.1354 mL	0.6769 mL	1.3538 mL

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

In Vivo

- Add each solvent one by one: PBS
Solubility: 100 mg/mL (135.38 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.08 mg/mL (2.82 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.08 mg/mL (2.82 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.08 mg/mL (2.82 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Stachyose tetrahydrate, a functional oligosaccharide, acts as a prebiotic. Stachyose tetrahydrate can prevent indirectly colon cancer cell growth by promoting the proliferation of probiotics or producing beneficial materials in the intestine^{[1][2]}.

IC₅₀ & Target

Human Endogenous Metabolite	Human Endogenous Metabolite
-----------------------------	-----------------------------

In Vitro

Stachyose tetrahydrate inhibits Caco-2 cell proliferation and induces apoptosis in a dose-dependent manner^[1]. Stachyose highly promotes proliferation of lactic acid bacteria (LAB) by inducing LAB to produce more α -galactosidase to hydrolyze stachyose^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration ^[1]

Mice^[1]

Male Kunming mice in each group (n=8) are administered by intragastric gavage with saline, stachyose (250 mg/kg bw), genistein (100 mg/kg bw), and stachyose (50, 250, and 500 mg/kg bw) together with genistein (100 mg/kg bw) for 4 consecutive weeks, respectively, and then their urine, feces, blood, gut, and liver are collected^[1].

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

REFERENCES

- [1]. Huang G, et al. Stachyose-induced apoptosis of Caco-2 cells via the caspase-dependent mitochondrial pathway. *Food Funct.* 2015;6(3):765-771.
- [2]. Pan Q, et al. The Proliferation Mechanism of *Lactobacillus plantarum* RB1 Stimulated by Stachyose. *Curr Microbiol.* 2017 Jun;74(6):732-738.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA