

PRODUCT INFORMATION



Stachyose (hydrate)

Item No. 34322

CAS Registry No.: 54261-98-2

Formal Name: β -D-fructofuranosyl O- α -D-galactopyranosyl-(1 $\rightarrow$ 6)-O- α -D-galactopyranosyl-(1 $\rightarrow$ 6)- α -D-glucopyranoside, hydrate

MF: $C_{24}H_{42}O_{21} \cdot XH_2O$

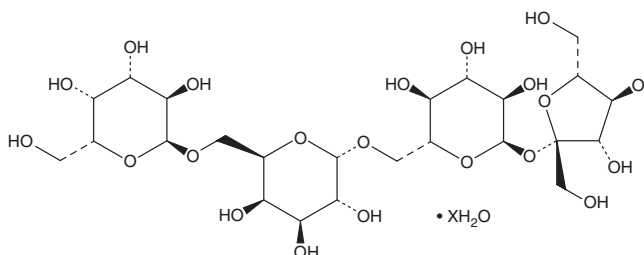
FW: 666.6

Purity: $\geq 95\%$

Supplied as: A solid

Storage: -20°C

Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Stachyose (hydrate) is supplied as a solid. A stock solution may be made by dissolving the stachyose (hydrate) in the solvent of choice, which should be purged with an inert gas. Stachyose (hydrate) is soluble in the organic solvent DMSO at a concentration of approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of stachyose (hydrate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of stachyose (hydrate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Stachyose is an oligosaccharide and prebiotic.¹⁻³ *In vivo*, stachyose (1 g/kg per day) reduces the number of colonic lesions and serum TNF- α , IL-6, IL-10, and IL-17a levels, as well as increases gut levels of *Akkermansia* and the probiotic *Lactobacillus*, in a rat model of colitis induced by dextran sulfate (DSS; Item No. 23250).¹ It decreases serum LPS, IL-6, and TNF- α levels and enriches *Phascolarctobacterium*, *Bilophila*, *Oscillospira*, and *Turicibacter* in the gut microbiota in a rat model of diabetes induced by high-fat diet and streptozotocin (STZ; Item No. 13104).² Stachyose also enhances berberine-induced blood glucose control and improvements in insulin resistance, as well as decreases the fecal concentration of short-chain fatty acids, in the KKAy mouse model of type 2 diabetes.³

References

1. He, L., Zhang, F., Jian, Z., *et al.* Stachyose modulates gut microbiota and alleviates dextran sulfate sodium-induced acute colitis in mice. *Saudi J. Gastroenterol.* **26**(3), 153-159 (2020).
2. Liu, G., Bei, J., Liang, L., *et al.* Stachyose improves inflammation through modulating gut microbiota of high-fat diet/streptozotocin-induced type 2 diabetes in rats. *Mol. Nutr. Food Res.* **62**(6), e1700954 (2018).
3. Cao, H., Li, C., Lei, L., *et al.* Stachyose improves the effects of berberine on glucose metabolism by regulating intestinal microbiota and short-chain fatty acids in spontaneous type 2 diabetic KKAy mice. *Front. Pharmacol.* **11**, 578943 (2020).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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