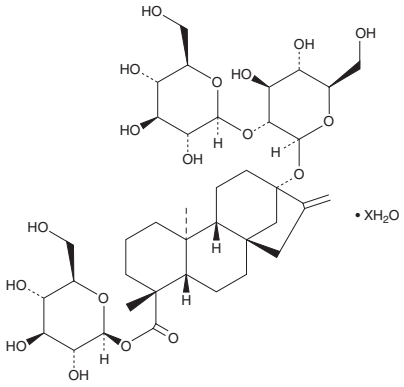
PRODUCT INFORMATION

Stevioside (hydrate)

Item No. 11902



Formal Name:	13-[(2-O-β-D-glucopyranosyl-β-D-glucopyranosyl)oxy]-kaur-16-en-18-oic acid, (4α)-β-D-glucopyranosyl ester, hydrate
Synonyms:	19-O-β-Glucopyranosyl-13-O-β-glucopyranosyl-(1-2)-β-glucopyranosyl-steviol
MF:	$C_{38}H_{60}O_{18} \bullet XH_2O$
FW:	804.9
Purity:	≥95%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Stevia rebaudiana*

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

Laboratory Procedures

Stevioside (hydrate) is supplied as a A crystalline solid. A stock solution may be made by dissolving the stevioside (hydrate)in the solvent of choice, which should be purged with an inert gas. Stevioside (hydrate) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of stevioside (hydrate) in these solvents is approximately 30 mg/ml.

Stevioside (hydrate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, stevioside (hydrate) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Stevioside (hydrate) has a solubility of approximately 0.11 mg/ml in a 1:8 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Stevioside is a natural non-caloric sweetener and glycoside form of steviol (Item No. 10011344) that has been found in *S. rebaudiana* and has diverse biological activities.[1-5] It increases glucose-stimulated insulin secretion in isolated mouse pancreatic islets when used at a concentration of 1 µM.[2] Stevioside (1 mM) reduces LPS-stimulated increases in TNF-α and IL-1β production in THP-1 cells, but also induces TNF-α and IL-1β production in unstimulated THP-1 cells.[3] It decreases systolic blood pressure in Goto-Kakizaki (GK) type 2 diabetic rats when administered at a dose of 0.03 g/kg.[4] Stevioside reduces ear edema induced by 12-O-tetradecanoylphorbol-13-acetate (TPA; Item No. 10008014) in mice (ID_{50} = 291.6 µg/ear).[5]

References

1. Sclafani, A., Bahrani, M., Zukerman, S., *et al.* Stevia and saccharin preferences in rats and mice. *Chem. Senses* **35(5)**, 433-443 (2010).
2. Chen, J., Jeppesen, P.B., Nordentoft, I., *et al.* Stevioside improves pancreatic β-cell function during glucotoxicity via regulation of acetyl-CoA carboxylase. *Am. J. Physiol. Endocrinol. Metab.* **292(6)**, E1906-E1916 (2007).
3. Boonkaewwan, C., Toskulkao, C., and Vongsakul, M. Anti-inflammatory and immunomodulatory activities of stevioside and Its metabolite steviol on THP-1 cells. *J. Agric. Food Chem.* **54(3)**, 785-789 (2006).
4. Jeppesen, P.B., Dyrskog, S.E., Agger, A., *et al.* Can stevioside in combination with a soy-based dietary supplement be a new useful treatment in type 2 diabetes? An in vivo study in the diabetic goto-kakizaki rat. *Rev. Diabet. Stud.* **3(4)**, 189-199 (2006).
5. Yasukawa, K., Kitanaka, S., and Seo, S. Inhibitory effect of stevioside on tumor promotion by 12-O-tetradecanoylphorbol-13-acetate in two-stage carcinogenesis in mouse skin. *Biol. Pharm. Bull.* **25(11)**, 1488-1490 (2002).

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