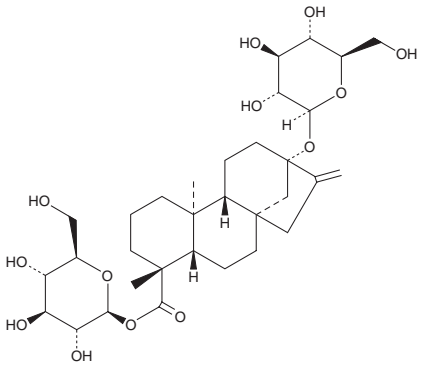
PRODUCT INFORMATION

Rubusoside

Item No. 29040



CAS Registry No.:	64849-39-4
Formal Name:	(4α)-13-(β-D-glucopyranosyloxy)-kaur-16-en-18-oic acid, β-D-glucopyranosyl ester
MF:	$C_{32}H_{50}O_{13}$
FW:	642.7
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Malus hupehensis* Rehd.

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

Laboratory Procedures

Rubusoside is supplied as a crystalline solid. A stock solution may be made by dissolving the rubusoside in the solvent of choice, which should be purged with an inert gas. Rubusoside is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of rubusoside in ethanol is approximately 10 mg/ml and approximately 20 mg/ml in DMSO and DMF.

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 rubusoside can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of rubusoside in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Rubusoside is a natural non-caloric sweetener and glycoside form of steviol (Item No. 10011344) that has been found in *S. rebaudiana* leaves and has diverse biological activities.[1,2] It inhibits glucose transport by glucose transporter 1 (Glut1) and fructose transport by Glut5 (IC_{50}s = 4.6 and 6.7 mM, respectively, for the recombinant human transporters).[3] Rubusoside prevents lipotoxicity induced by palmitic acid (Item No. 10006627) in INS-1 mouse insulinoma cells when used at concentrations ranging from 50 to 200 µM.[4] It has been used to enhance the solubility of the anticancer agent etoposide (Item No. 12092).[5]

References

1. Gardana, C., Scaglianti, M., and Simonetti, P. Evaluation of steviol and its glycosides in *Stevia rebaudiana* leaves and commercial sweetener by ultra-high-performance liquid chromatography-mass spectrometry. *J. Chromatogr. A.* **1217(9)**, 1463-1470 (2010).
2. Chaturvedula, V.S.P., Upreti, M., and Prakash, I. Diterpene glycosides from *Stevia rebaudiana*. *Molecules* **16(5)**, 3552-3562 (2011).
3. George Thompson, A.M., Iancu, C.V., Nguyen, T.T., *et al.* Inhibition of human $GLUT_1$ and $GLUT_5$ by plant carbohydrate products; insights into transport specificity. *Sci. Rep.* **5:12804** (2015).
4. Zheng, H., Wu, J., Huang, H., *et al.* Metabolomics analysis of the protective effect of rubusoside on palmitic acid-induced lipotoxicity in INS-1 cells using UPLC-Q/TOF MS. *Mol. Omics* **15(3)**, 222-232 (2019).
5. Zhang, F., Koh, G.Y., Hollingsworth, J., *et al.* Reformulation of etoposide with solubility-enhancing rubusoside. *Int. J. Pharm.* **434(1-2)**, 453-459 (2012).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM