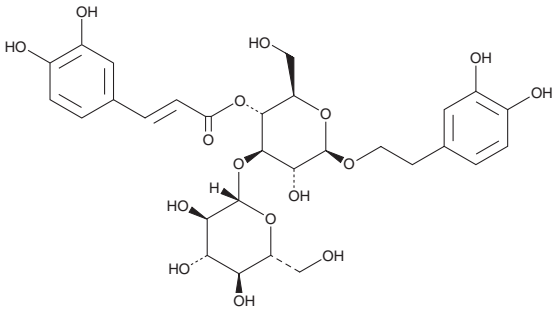
PRODUCT INFORMATION

Plantamajoside

Item No. 27296

CAS Registry No.:	104777-68-6
Formal Name:	2-(3,4-dihydroxyphenyl)ethyl 3-O-β-D-glucopyranosyl-β-D-glucopyranoside 4-[(2E)-3-(3,4-dihydroxyphenyl)-2-propenoate]
MF:	$C_{29}H_{36}O_{16}$
FW:	640.6
Purity:	≥95%
UV/Vis.:	λ_{max}: 221, 334 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Plantago asiatica* L.



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

Laboratory Procedures

Plantamajoside is supplied as a crystalline solid. A stock solution may be made by dissolving the plantamajoside in the solvent of choice, which should be purged with an inert gas. Plantamajoside is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of plantamajoside in these solvents is approximately 10, 33, and 50 mg/ml, respectively.

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

Description

Plantamajoside is a phenylethanoid that has been found in *P. lanceolata* and has diverse biological activities, including antioxidative, anticancer, and anti-inflammatory properties.[1-3] It scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) radicals in a cell-free assay (IC_{50} = 11.8 µM). It also inhibits 5-lipoxygenase (5-LO) and 15-LO (IC_{50}s = 0.375 and 96 µM, respectively).[1,2] Plantamajoside decreases viability of TE-1 esophageal squamous cell carcinoma (ESCC) cells when used at concentrations ranging from 20 to 320 µg/ml, as well as inhibits LPS-induced epithelial-to-mesenchymal transition (EMT) in Eca-109 and TE-1 cells and decreases phosphorylated NF-κB levels in TE-1 cells.[3] Plantamajoside (3 mg/ear) inhibits mouse ear edema induced by arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) by 25%.[1]

References

1. Murai, M., Tamayama, Y., and Nishibe, S. *Planta. Med.* **61(5),** 479-480 (1995).
2. Skari, K.P., Malterud, K.E., and Haugli, T. *Natural antioxidants and anticarcinogens in nutrition, health and disease*. Kumpulainen, J.T. and Salonen, J.T., editors, *The Royal Society of Chemistry* (1999).
3. Li, X., Chen, D., Li, M., *et al. Biomed. Pharmacother.* **102,** 1045-1051 (2018).

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