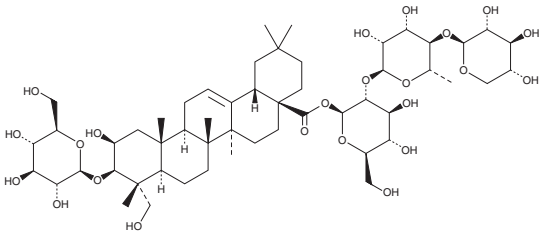
PRODUCT INFORMATION

Polygalasaponin F

Item No. 30064

CAS Registry No.: 882664-74-6
Formal Name: (2β,3β,4α)-3-(β-D-glucopyranosyloxy)-2,23-dihydroxy-olean-12-en-28-oic acid, O-β-D-xylopyranosyl-(1→4)-O-6-deoxy-α-L-mannopyranosyl-(1→2)-β-D-glucopyranosyl ester
MF: $C_{53}H_{86}O_{23}$
FW: 1,091.2
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years
Item Origin: Plant/*Polygala japonica*



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

Laboratory Procedures

Polygalasaponin F is supplied as a solid. A stock solution may be made by dissolving the polygalasaponin F in the solvent of choice, which should be purged with an inert gas. Polygalasaponin F is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of polygalasaponin F in these solvents is approximately 25 and 15 mg/ml, respectively.

Polygalasaponin F is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, polygalasaponin F should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Polygalasaponin F has a solubility of approximately 0.16 mg/ml in a 1:5 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Polygalasaponin F is a triterpenoid saponin originally isolated from *Polygala japonica* and has diverse biological activities.[1-3] It inhibits LPS-induced increases in TNF-α and nitric oxide (NO) production, inducible nitric oxide synthase (iNOS) levels, and nuclear translocation of NF-κB p65 in BV-2 microglia when used at concentrations of 0.1, 1, and 10 µM.[1] Polygalasaponin F (0.1, 1, and 10 µM) inhibits rotenone-induced increases in intracellular reactive oxygen species (ROS) levels, decreases in mitochondrial membrane potential, and induction of apoptosis in PC12 cells.[2] Intracerebroventricular administration of polygalasaponin F (1 and 10 µM) induces long-term potentiation in the hippocampal dentate gyrus in anesthetized rats, an effect that can be prevented by the NMDA receptor inhibitor MK-801 or the calcium/calmodulin-dependent protein kinase (CaMKII) inhibitor KN-93 (Item Nos. 13319 | 13864 | 21472).[3]

References

1. Wei, W., Yuan, Y.-H., Gao, Y.-N., *et al.* Polygalasaponin F inhibits secretion of inflammatory cytokines via NF-κB pathway regulation. *J. Asian Nat. Prod. Res.* **16(8)**, 865-875 (2014).
2. Wu, M.-M., Yuan, Y.-H., Chen, J., *et al.* Polygalasaponin F against rotenone-induced apoptosis in PC12 cells via mitochondria protection pathway. *J. Asian Nat. Prod. Res.* **16(1)**, 59-69 (2014).
3. Sun, F., Sun, J.-D., Han, N., *et al.* Polygalasaponin F induces long-term potentiation in adult rat hippocampus via NMDA receptor activation. *Acta Pharmacol. Sin.* **33(4)**, 431-437 (2012).

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