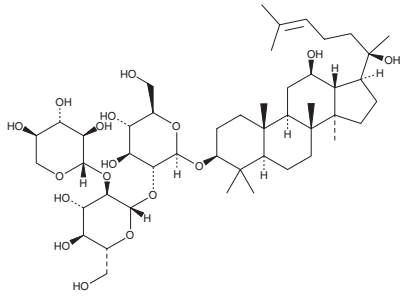
PRODUCT INFORMATION

Notoginsenoside Ft_1

Item No. 24976

CAS Registry No.: 155683-00-4
Formal Name: (3β,12β,20R)-12,20-dihydroxydammar-24-en-3-yl O-β-D-xylopyranosyl-(1→2)-O-β-D-glucopyranosyl-(1→2)-β-D-glucopyranoside
MF: $C_{47}H_{80}O_{17}$
FW: 917.1
Purity: ≥95%
Supplied as: A crystalline 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

Notoginsenoside Ft_1 is supplied as a crystalline solid. A stock solution may be made by dissolving the notoginsenoside Ft_1 in the solvent of choice, which should be purged with an inert gas. Notoginsenoside Ft_1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of notoginsenoside Ft_1 in these solvents is approximately 5, 15, and 20 mg/ml, respectively.

Notoginsenoside Ft_1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, notoginsenoside Ft_1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Notoginsenoside Ft_1 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Notoginsenoside Ft_1 is a saponin originally isolated from *P. notoginseng* with diverse biological activities.[1-5] It induces proliferation, migration, and tube formation of human umbilical vein endothelial cells (HUVECs) *via* nuclear translocation of hypoxia-inducible factor-1α (HIF-1α) and activation of the PI3K/AKT and Raf/MEK/ERK signaling pathways in a manner dependent on mammalian target of rapamycin (mTOR).[1] Notoginsenoside Ft_1 (45 µM) induces cell cycle arrest at the S and G_2/M phases and promotes apoptosis of SH-SY5Y cells.[2] It increases cGMP levels and induces relaxation of isolated precontracted rat mesenteric arteries, effects that are reversed by the nitric oxide synthase inhibitor L-NAME (Item No. 80210) and ODQ (Item No. 81410), an inhibitor of soluble guanylyl cyclase.[3] *In vivo*, notoginsenoside Ft_1 (0.25, 2.5, and 25 mg/kg) promotes angiogenesis and decreases wound diameter in a mouse model of punched-hole ear injury.[1] Notoginsenoside Ft_1 (1.25 mg/kg) decreases tail bleeding time and increases thrombus weight in a rat tail bleeding assay.[4] Topical administration of notoginsenoside Ft_1 increases mRNA expression of the collagen expression, fibroblast proliferation, and scar formation genes COL1A1, COL3A1, TGF-β1, TGF-β3, and fibronectin, promotes neovascularization, reduces monocyte infiltration, and shortens wound closure time in a *db/db* mouse model of diabetic foot ulcers.[5]

References

1. Shen, K., Ji, L., Gong, C., *et al. Biochem. Pharmacol.* **84(6)**, 784-792 (2012).
2. Gao, B., Shi, H.-L., Li, X., *et al. Life Sci.* **108(2)**, 63-70 (2014).
3. Shen, K., Leung, S.W.S., Ji, L., *et al. Biochem. Pharmacol.* **88(1)**, 66-74 (2014).
4. Gao, B., Huang, L., Liu, H., *et al. Br. J. Pharmacol.* **171(1)**, 214-223 (2014).
5. Zhang, E., Gao, B., Yang, L., *et al. J. Pharmacol. Exp. Ther.* **356(2)**, 324-332 (2016).

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