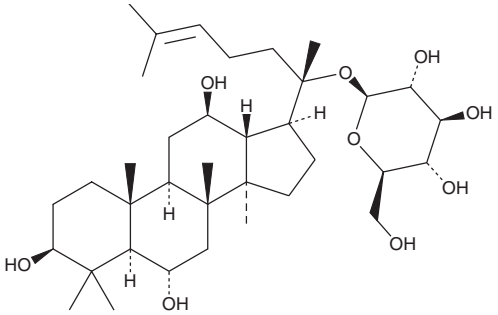
PRODUCT INFORMATION

Ginsenoside F_1

Item No. 31137

CAS Registry No.:	53963-43-2
Formal Name:	(3β,6α,12β)-3,6,12-trihydroxydammar-24-en-20-yl β-D-glucopyranoside
Synonyms:	GF_1, Panaxoside A Progenin
MF:	$C_{36}H_{62}O_9$
FW:	638.9
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Panax ginseng*



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

Laboratory Procedures

Ginsenoside F_1 (GF_1) is supplied as a crystalline solid. A stock solution may be made by dissolving the GF_1 in the solvent of choice, which should be purged with an inert gas. GF_1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of GF_1 is approximately 10 mg/ml in ethanol and DMF and approximately 30 mg/ml in DMSO.

GF_1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, GF_1 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. GF_1 has a solubility of approximately 0.12 mg/ml in a 1:7 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

GF_1 is a ginsenoside that has been found in *P. ginseng* and has diverse biological activities.[1-4] It increases cytotoxic degranulation of natural killer (NK) cells against K562 leukemia cells *in vitro* when used at a concentration of 10 µM and enhances NK cell-mediated lymphoma clearance *in vivo*.[1] GF_1 (50 mg/kg) reduces atherosclerotic lesion area, whole body myeloperoxidase (MPO) levels, and aortic root NF-κB, TLR4, and LOX-1 levels in *ApoE*$^{-/-}$ mice.[2] It increases microvessel density and improves focal cerebral blood perfusion in a rat model of ischemic stroke induced by middle cerebral artery occlusion (MCAO).[3] GF_1 also restores spatial working memory, but not context-dependent fear memory, in the APP/PS1 transgenic mouse model of Alzheimer's disease.[4]

References

1. Kwon, H.-J., Lee, H., Choi, G.-E., *et al*. Ginsenoside F1 promotes cytotoxic activity of NK cells via insulin-like growth factor-1-dependent mechanism. *Front. Immunol.* **9**, 2785 (2018).
2. Qin, M., Luo, Y., Lu, S., *et al*. Ginsenoside F1 ameliorates endothelial cell inflammatory injury and prevents atherosclerosis in mice through A20-mediated suppression of NF-κB signaling. *Front. Pharmacol.* **8**, 953 (2017).
3. Zhang, J., Liu, M., Huang, M., *et al*. Ginsenoside F1 promotes angiogenesis by activating the IGF-1/IGF1R pathway. *Pharmacol. Res.* **144**, 292-305 (2019).
4. Han, J., Oh, J.-P., Yoo, M., *et al*. Minor ginsenoside F1 improves memory in APP/PS1 mice. *Mol. Brain* **12(1)**, 77 (2019).

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