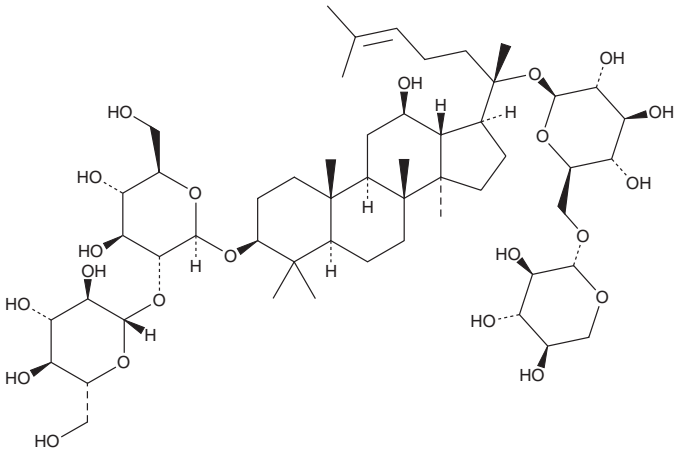
PRODUCT INFORMATION

Ginsenoside Rb_3

Item No. 29005



CAS Registry No.:	68406-26-8
Formal Name:	(3β,12β)-3-[(2-O-β-D-glucopyranosyl-β-D-glucopyranosyl)oxy]-12-hydroxydammar-24-en-20-yl 6-O-β-D-xylopyranosyl-β-D-glucopyranoside
Synonym:	Ginsenoside IV
MF:	$C_{53}H_{90}O_{22}$
FW:	1,079.3
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/Ginseng root

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

Laboratory Procedures

Ginsenoside Rb_3 is supplied as a solid. A stock solution may be made by dissolving the ginsenoside Rb_3 in the solvent of choice, which should be purged with an inert gas. Ginsenoside Rb_3 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of ginsenoside Rb_3 in these solvents is approximately 0.1, 10, 15 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 ginsenoside Rb_3 can be prepared by directly dissolving the solid in aqueous buffers. The solubility of ginsenoside Rb_3 in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ginsenoside Rb_3 is a steroid glycoside that has been found in *Panax* and has diverse biological activities.[1-5] It inhibits JNK-mediated activation of NF-κB and apoptosis induced by oxygen-glucose deprivation (OGD) in H9c2 mouse cardiac myoblasts *in vitro* and reduces myocardial apoptosis and production of reactive oxygen species (ROS) in a rat model of myocardial ischemia-reperfusion injury when administered at a dose of 20 mg/kg.[1,2] Ginsenoside Rb_3 (10 and 20 mg/kg per day for 10 days) prevents increases in serum creatinine, blood urea nitrogen (BUN), and malondialdehyde (MDA) levels, and decreases in superoxide dismutase (SOD) activity and glutathione (GSH) levels, as well as inhibits renal cell apoptosis in a mouse model of nephrotoxicity induced by cisplatin (Item No. 13119).[3] It decreases the abundance of cancer cachexia-associated gut microbiota and the number of polyps in the $Apc^{Min/+}$ mouse model of colon cancer.[4] Ginsenoside Rb_3 also decreases immobility time in the forced swim and tail suspension tests, indicating antidepressant-like activity, in mice.[5]

References

1. Ma, L., Liu, H., Xie, Z., *et al. PLoS One* **9(8)**, e103628 (2014).
2. Liu, X., Jiang, Y., Yu, X., *et al. Exp. Ther. Med.* **8(6)**, 1751-1756 (2014).
3. Xing, J.-J., Hou, J.-G., Ma, Z.-N., *et al. Cell Prolif.* **52(4)**, e12627 (2019).
4. Huang, G., Khan, I., Li, X., *et al. Sci. Rep.* **7(1)**, 12552 (2017).
5. Cui, J., Jiang, L., and Xiang, H. *J. Psychopharmacol.* **26(5)**, 697-713 (2012).

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