



Ginsenoside Rb3 Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Ginsenoside Rb3

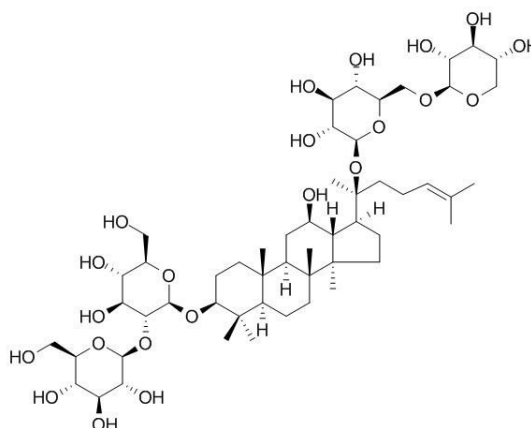
Catalog No.: CFN99966

Cas No.: 68406-26-8

Purity: > 98%

M.F: C₅₃H₉₀O₂₂

M.W: 1079.27



Physical Description: White powder

Synonyms: Gypenoside IV; β-D-Glucopyranoside, (3β,12β)-3-[(2-O-β-D-[3β-[[2-O-(β-D-Glucopyranosyl)-β-D-glucopyranosyl]oxy]-12β-hydroxy-5α-dammar-24-en-20-yl]6-O-(β-D-xylopyranosyl)-β-D-glucopyranoside .

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food and cosmetic research;
4. Synthetic precursor compounds;
5. Intermediates & Fine Chemicals;
6. Ingredient in supplements, beverages;
7. Aromatics;
8. Others.

[Source]

The root and rhizome of *Panax ginseng* C. A. Mey.

[Biological Activity or Inhibitors]

Ginsenoside Rb3 has protective effects on oxygen and glucose deprivation-induced ischemic injury in PC12 cells.^[1]

Ginsenoside Rb3 possesses the effect against isoproterenol-induced myocardial injury and heart function impairment, and that the mechanism of pharmacological action was related to the antioxidant activity of ginsenoside Rb3 at least in part.^[2]

Ginsenoside Rb3 is extracted from the plant *Panax ginseng* and plays important roles in cardiovascular diseases, including myocardial ischemia-reperfusion (I/R) injury, the protective effect of ginsenoside Rb3 on the OGD-Rep injury is attributed to the inhibition of JNK-mediated NF- κ B activation, suggesting that ginsenoside Rb3 has the potential to serve as a novel therapeutic agent for myocardial I/R injury.^[3]

Ginsenoside Rb3 may have antidepressant-like effects, brain-derived neurotrophic factor and the monoamine neurotransmitters 5-hydroxytryptamine, dopamine, and norepinephrine are involved in ginsenoside Rb3's antidepressant-like effects. ^[4]

Ginsenoside Rb3 significantly attenuates the changes of creatine kinase activity and lactate dehydrogenase activity.^[5]

Ginsenoside Rb3 can exert a neuroprotective role on hippocampal neurons, a role which was partly mediated by the facilitation of Ca²⁺-dependent deactivation of NMDA receptors, and the resultant reduction of intracellular free Ca²⁺ level.^[6]

Ginsenoside Rb3 reduces fasting blood glucose level, food intake, water intake, improved oral glucose tolerance, and repaired injured pancreas tissues of alloxan-induced diabetic mice, suggests that ginsenoside possesses the potential of the clinical use in preventing and treating diabetes.^[7]

[Solvent]

Pyridine, DMSO, Ethanol, Methanol.

[HPLC Method]^[8]

Mobile phase: Acetonitrile-0.2% Phosphoric acid H₂O, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 40 °C;

The wave length of determination: 203 nm.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[References]

- [1] Jun-rong, Yi-fu, Shen, *et al. Acta Pharmacol. Sin.*, 2010, 31(3):273-80.
- [2] Tian W, Yu X, Qu S, *et al. Eur. J. Pharmacol.*, 2010, 636(1-3):121-5.
- [3] Ma L, Liu H, Xie Z, *et al. Plos One*, 2014, 9(8):e103628-e103628.
- [4] Cui J, Jiang L, Xiang H. *J. Psychopharmacol.*, 2011, 26(5):697-713.
- [5] Shi Y, Han B, Yu X, *et al. Pharm. Biol.*, 2011, 49(9):900-6.
- [6] Peng L L, Hong M S, Zheng L J, *et al. Am. Chinese Med.*, 2009, 37(4):759-70.
- [7] Bu Q T, Zhang W Y, Chen Q C, *et al. Med. Chem.*, 2012, 8(5):934-41.
- [8] Yin S, Wu H, Xu F, *et al. Acta Academiae Medicinae Militaris Tertiae*, 2010, 32(7):658-60.

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