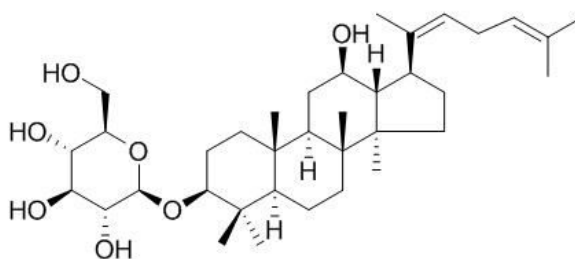


Ginsenoside Rh3 Datasheet

4th Edition (Revised in July, 2016)**[Product Information]****Name:** Ginsenoside Rh3**Catalog No.:** CFN99972**Cas No.:** 105558-26-7**Purity:** > 98%**M.F:** C₃₆H₆₀O₇**M.W:** 604.86**Physical Description:** White powder

Synonyms: (2R,3S,4S,5R,6R)-2-(hydroxymethyl)-6-[[[(8R,10R,12S,13R,14S,17S)-12-hydroxy-4,4,8,10,14-pentamethyl-17-[(2Z)-6-methylhepta-2,5-dien-2-yl]-2,3,5,6,7,9,11,12,13,15,16,17-dodecahydro-1H-cyclopenta[a]phenanthren-3-yl]oxy]oxane-3,4,5-triol.

**[Intended Use]**

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

[Source]

The roots of *Panax ginseng* C. A. Mey.

[Biological Activity or Inhibitors]

Ginsenoside Rh3 is a bacterial metabolite of Rg5, which is the main constituent of heat-processed ginseng, has anti-inflammatory effect in microglia by modulating AMPK and its downstream signaling pathways.^[1]

Ginsenosides Rh3 and Rg5 can suppress swelling of oxazolone-induced mouse ear contact dermatitis, they also reduce mRNA expressions of cyclooxygenase-2, interleukin (IL)-1 β , tumor necrosis factor (TNF)- α and interferon (IFN)- γ ; the inhibition of ginsenoside Rh3 was more potent than that of ginsenoside Rg5, suggests that ginsenoside Rh3 metabolized from ginsenoside Rg5 may improve chronic dermatitis or psoriasis by the regulation of IL-1 β and TNF- α produced by macrophage cells and of IFN- γ produced by Th cells.^[2]

Ginsenoside-Rh2 and Rh3 can induce differentiation of HL-60 cells into granulocytes and modulation of PKC isoform levels may contribute to differentiation of HL-60 cells by G-Rh2.^[3]

Ginsenosides Rg5 and Rh3 inhibit acetylcholinesterase activity in a dose-dependent manner, with IC₅₀ values of 18.4 and 10.2 μ M, respectively; the inhibitory potency of ginsenoside Rh3 is comparable with that of donepezil (IC₅₀=9.9 μ M); ginsenoside Rh3 can potently protect memory deficit; suggests that they may protect memory deficit by inhibiting AChE activity and increasing BDNF expression and CREB activation.^[4]

[Solvent]

Pyridine, Methanol, Ethanol, Hot water, etc.

[HPLC Method]^[5]

Mobile phase: Methanol -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] Lee Y Y, Park J S, Lee E J, *et al.* *J. Agr. Food Chem.*, 2015, 63(13):3472-80.

[2]Yong W S, Bae E A, Dong H K. *Arch. Pharm. Res.*, 2006, 29(8):685-90.

[3] Kim Y S, Dong S K, Kim S I. *Int. J. Biochem. Cell Biol.*, 1998, 30(3):327-38.

[4] Kim E J, Jung I H, Le T K V, *et al.* *J. Ethnopharmacol.*, 2013, 146(1):294-9.

[5] Wang J Y, Li X Q, Yang X Q. *Chinese Herbal Medicine*, 2008 (02): 225-6.

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