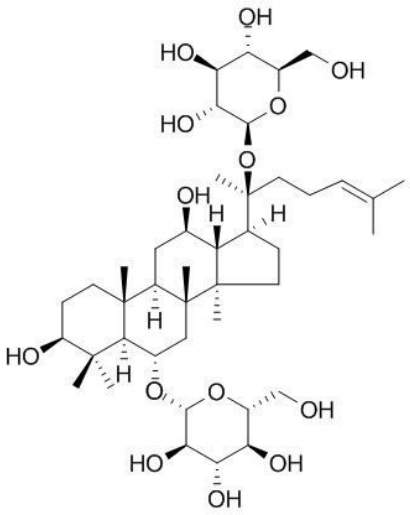
Natural Products

ChemFaces

Ginsenoside Rg1 Datasheet

4th Edition (Revised in July, 2016)

[Product Information]



Name: Ginsenoside Rg1

Catalog No.: CFN99967

Cas No.: 22427-39-0

Purity: > 98%

M.F: $C_{42}H_{72}O_{14}$

M.W: 801.01

Physical Description: White powder

Synonyms:

(2R,3R,4S,5S,6R)-2-[[(3S,5R,6S,8R,9R,10R,12R,13R,14R,17S)-3,12-dihydroxy-4,4,8,10,14-pentamethyl-17-[(2S)-6-methyl-2-[[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)-2-oxanyl]oxy]hept-5-en-2-yl]-2,3,5,6,7,9,11,12,13,15,16,17-dodecahydro-1H-cyclopenta

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Cosmetic research;
5. Synthetic precursor compounds;
6. Intermediates & Fine Chemicals;
7. Others.

[Source]

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

[Biological Activity or Inhibitors]

Ginsenoside Rg1 is the main pharmacologically active compound of ginsenosides and has demonstrated pharmacological effects in the cardiovascular system, central nervous system and immune system; Rg1 has protective effect against Aβ25-35-induced toxicity in PC12 cells,might be through the insulin-like growth factor-I receptor (IGF-IR) and estrogen receptor (ER)signaling pathways.[1]

Ginsenoside Rg1 is often recommended for its antiaging effects,Rg1 supplementation improved the performance of aged mice in behavior test and significantly upregulated the expression of synaptic plasticity-associated proteins in hippocampus, including synaptophysin, N-methyl-D-aspartate receptor subunit 1, postsynaptic density-95, and calcium/calmodulin-dependent protein kinase II alpha, via promoting mammalian target of rapamycin pathway activation.[2]

Ginsenoside Rg1 increases the expression of the vascular endothelial growth factor (VEGF) mRNA and reduces expression of transforming growth factor beta (TGF-β) mRNA in wounded skin, suggests that Rg1 should be helpful for the promotion of wound healing.[3]

Ginsenoside Rg1 is a desirable agent for enhancing CD^{4+} T-cell activity, as well as the correction of Th1-dominant pathological disorders, which by increasing Th2 specific cytokine secretion and by repressing Th1 specific cytokine production.[4]

Ginsenoside Rg1 promotes proliferation, migration, adhesion and in vitro vasculogenesis; Rg1 inhibits platelet activation via the inhibition of ERK pathway, and attenuates arterial thrombus formation in vivo.[5,6]

Ginsenoside Rg1 possesses the neuroprotective effects on inducing differentiation of ES cells into neurons in vitro via the GR-MEK-/2-K-signaling pathway.[7]

[Solvent]

Pyridine, DMSO, Methanol, Acetone, etc.

[HPLC Method][8]

Mobile phase: Acetonirile- H2O=85:15;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 203 nm

[Storage]

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

[References]

[1] Chen W F, Zhou L P, Chen L, *et al. Neurochem. Int., 2013, 62(8):1065-71.*

[2] Yang L, Zhang J, Zheng K, *et al. Journals of Gerontology, 2014, 69(3):282-94.*

[3] 임애경, 김길수, 박수정, *et al. 한국식품영양과학회지, 2010, 39(10):437-45.*

[4] Lee E J, Ko E, Lee J, *et al. Int. Immunopharmacol., 2004, 4(4):235-44.*

[5] Shi A W, Wang X B, Lu F X, *et al. Acta Phamacol. Sin., 2009, 30(3):299-306.*

[6] Zhou Q, Jiang L, Xu C, *et al. Thromb. Res., 2014, 133(1):57-65.*

[7] Wu J, Pan Z, Cheng M, *et al. Neurochem. Int. , 2012, 62(1):92-102.*

[8] Jia G, Li M A, Han F. *Journal of Tianjin University of Traditional Chinese Medicine, 2011(1):41-2.*

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