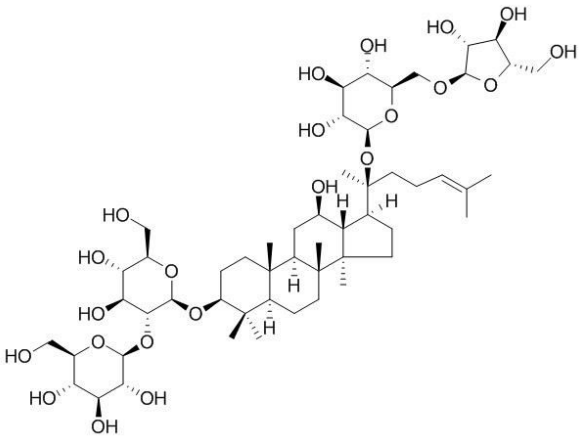
Natural Products

ChemFaces

Ginsenoside Rc Datasheet

4th Edition (Revised in July, 2016)

[Product Information]



Name: Ginsenoside Rc

Catalog No.: CFN99973

Cas No.: 11021-14-0

Purity: > 98%

M.F: $C_{53}H_{90}O_{22}$

M.W: 1079.27

Physical Description: White powder

Synonyms:20-[(6-O-Alpha-L-arabinofuranosyl-beta-D-glucopyranosyl)oxy]-12beta-hydroxydammar-24-en-3beta-yl 2-O-beta-D-glucopyranosyl-beta-D-glucopyranoside; 3β-[2-O-(β-D-Glucopyranosyl)-β-D-glucopyranosyloxy]-20-[6-O-(α-L-arabinofuranosyl)-β-D-glucopyranosyloxy]dammara-24-ene-12β-ol.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Cosmetic research;
5. Synthetic precursor compounds;
6. Intermediates & Fine Chemicals;
7. Ingredient in supplements, beverages;
8. Dairy products & desserts;

9. Others.

[Source]

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

[Biological Activity or Inhibitors]

Ginsenoside Rc (Rc), a protopanaxadiol type ginsenoside, is the active component mainly responsible for the therapeutic and pharmacologic properties of ginseng, which are derived from its suppression of superoxide-induced free radicals, Rc can modulate Forkhead box O (FoxO1)phosphorylation through activation of PI3K/Akt and inhibition of AMPK and FoxO1 acetylation through interaction with CBP and SIRT1, and that this leads to upregulation of catalase under conditions of oxidative stress.[1]

Ginsenoside Rc exhibits anticancer and anti-inflammatory activities, can attenuate inflammatory symptoms of gastritis, hepatitis and arthritis.[2]

Ginsenoside Rc and Re induce c-fos in MCF-7 human breast carcinoma cells at both the mRNA and protein levels, they act via other transcription factors and not via estrogen receptor in c-Fos expression.[3]

Ginsenoside Rc significantly enhances glucose uptake by inducing ROS generation, which leads to AMPK and p38 MAPK activation.,consequently, it can be used as a potent natural anti-diabetic agent.[4]

Ginsenoside Rc can promote anti-adipogenic activity on 3T3-L1 adipocytes by down-regulating C/EBPα and PPARγ.[5]

[Solvent]

Pyridine, DMSO, Ethanol, Methanol.

[HPLC Method][6]

Mobile phase: Acetonitrile- H2O, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 35 ℃;

The wave length of determination: 203 nm.

[Storage]

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

[References]

[1] Kim D H, Chan H P, Park D, *et al. Arch. Pharm. Res., 2014, 37(6):813-20.*

[2] Tao Y, Man H R, Lee J, *et al. Am. J. Chinese Med., 2016:1-21.*

[3] Lee Y J, Jin Y R, Lim W C, *et al. Arch. Pharm. Res., 2003, 26(1):53-7.*

[4] Lee M S, Hwang J T, Kim S H, *et al. J .Ethnopharmacol., 2010, 127(3):771-6.*

[5] Yang J W, Kim S S. *Molecules, 2015, 20(1):1293-303.*

[6] Gao Y, Zang P, Hao J, *et al. J. Med. Plants Res.. 2012,6(15):3030-6.*

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