Natural Products

ChemFaces

Ginsenoside Ro Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Ginsenoside Ro

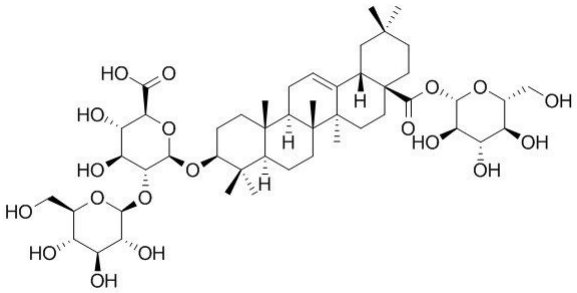
Catalog No.: CFN99147

Cas No.: 34367-04-9

Purity: > 98%

M.F: $C_{48}H_{76}O_{19}$

M.W: 957.11



Physical Description: Yellow powder

Synonyms: Chikusetsusaponin V; Polysciasaponin P3; (3beta)-28-(beta-D-Glucopyranosyloxy)-28-oxoolean-12-en-3-yl 2-O-beta-D-glucopyranosyl-beta-D-glucopyranosiduronic acid.

[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. Others.

[Source]

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

[Biological Activity or Inhibitors]

Ginsenoside-Ro, an oleanane-type saponin, has anti-inflammatory activity, it (10, 50, and 200 mg/kg, p.o.) inhibits an increase in vascular permeability in mice induced by acetic acid and reduces an acute paw edema in rats induced by compound 48/80 or carrageenin; it is effective in hypercoagulable state, increase of connective tissue in the artery and calcium effluence from the bone in adjuvant-induced arthritic rats.[1]

Ginsenoside Ro inhibits the increase of connective tissue in the liver of CCl4-induced chronic hepatitic rats, it shows a stronger inhibitory effect on the GalN-induced acute hepatitic model than those of the aglycone of ginsenoside Ro, oleanolic acid, or glycyrrhizic acid and its aglycone, glycyrrhetinic acid.[2]

Ginsenoside Ro shows inhibitory activity against 5αR with IC(50) values of 259.4 um; it (0.265mg/mouse) to shaved skin inhibited hair re-growth suppression after shaving in the testosterone-treated C57BL/6 mice; suggests that ginsenoside Ro enhances in vivo hair re-growth based on their inhibitory activity against 5αR in the androgenetic alopecia model.[3]

Ginsenoside-Ro increases the production and expression of Th2 cytokine IL-4 and decreases the production and expression of Th1 cytokine IFN-γ in Con A-induced murine splenocytes at concentrations of 2-10 μmol·L -1, it shows immunomodulatory effects by regulating the production and expression of Th1/Th2 cytokines in murine splenocytes.[4]

Ginsenoside Ro exerts anti-apoptosis and anti-inflammation in IL-1β-induced rat chondrocytes, which might be related to NF-κB signal pathway, it might be a potential novel drug for the treatment of osteoarthritis.[5]

Ginsenoside Ro has antioxidative properties against UV-B-induced oxidative stress in human dermal fibroblasts, it possesses a potential skin anti-photoaging property against UV-B radiation in fibroblasts.[6]

[Solvent]

Pyridine, DMSO, Methanol, Ethanol, Hot water, etc.

[HPLC Method][7]

Mobile phase: 0.2% Aqueous phosphoric acid -Acetonitrile, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 25 ℃;

The wave length of determination: 203 nm.

[Storage]

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

[References]

[1] Matsuda H, Samukawa K, Kubo M. *Planta Med., 1990, 56(1):19-23.*

[2] Matsuda H, Samukawa K, Kubo M. *Planta Med., 1991, 57(6):523-6.*

[3] Murata K, Takeshita F, Samukawa K, *et al. Phytother. Res., 2011, 26(1):48-53.*

[4] Yu J L, Dou D Q, Chen X H, *et al. Acta Pharm. Sin., 2005, 40(4):332-6.*

[5] Zhang X H, Xu X X, Xu T. *Chinese Journal of Natural Medicines, 2015, 13(4):283-9.*

[6] Kang H J, Oh Y, Lee S, *et al. Biosci. Biotechnol. Biochem., 2015, 79(12):1-4.*

[7] Xu M M, Song B, Yang X J, *et al. Central South Pharmacy, 2014(8):796-9.*

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