Natural Products

ChemFaces

(20S)-Protopanaxatriol Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: (20S)-Protopanaxatriol

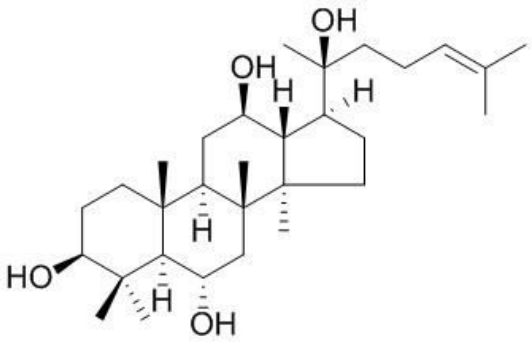
Catalog No.: CFN90564

Cas No.: 34080-08-5

Purity: > 98%

M.F: $C_{30}H_{52}O_4$

M.W: 476.4



Physical Description: Powder

Synonyms: (3b,6a,12b)-Dammar-24-ene-3,6,12,20-tetrol.

[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 roots of *Panax ginseng*.

[Biological Activity or Inhibitors]

20(S)-Protopanaxatriol (PPT), one of the ginsenoside metabolites, it can increase peroxisome proliferator-activated receptor gamma (PPARgamma)-transactivation activity dose-dependently with similar activity as troglitazone, a well-known PPARgamma agonist; it can enhance adipogenesis by increasing the expression of PPARgamma target genes such as aP2, LPL and PEPCK, it significantly increases expression of glucose transporter 4 (GLUT4); indicates that PPT can be developed as a PPARgamma agonist for the improvement of insulin resistance associated with diabetes.[1]

20(S)-protopanaxatriol has antiallergic effects, it reduces the release of inflammatory mediators via inhibiting multiple cellular signaling pathways comprising the Ca2+ influx, protein kinase C, and phospholipase A2 (PLA2), which are propagated by Syk activation upon allergic stimulation of mast cells.[2]

20(S)-Protopanaxatriol inhibits inducible nitric oxide synthase and cyclooxygenase-2 expressions through inactivation of nuclear factor-κB in RAW 264.7 macrophages stimulated with lipopolysaccharide, it may be possible to develop PPT as a useful agent for chemoprevention of cancer or inflammatory diseases.[3]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method][4]

HPLC-ELSD:

Mobile phase: 10% acetonitrile aqueous solution containing 5% acetic acid- 80% acetonitrile aqueous solution water,gradient eiution;

Flow rate: 1.2 ml/min;

Column temperature: 30 ℃;

Drift tube temperature: 60 ℃;

Flow rate of gas : 1.8L/min;

Carrier gas: N_2.

[Storage]

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

[References]

[1] Han K L, Jung M H, Sohn J H, *et al. Biol. Pharmaceut. Bull., 2006, 29(1):110-3.*

[2] Kim D Y, Ro J Y, Chang H L. *J.Gins. Res., 2015, 39(3):189-98.*

[3] Oh G S, Pae H O, Choi B M, *et al. Cancer Lett., 2004, 205(1):23-9.*

[4] Sun B S, Guang-Yao Y E, Zhang C C. *Chinese Journal of Pharmaceutical Analysis, 2013(3):388-94.*

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