Natural Products

ChemFaces

Saikosaponin D Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Saikosaponin D

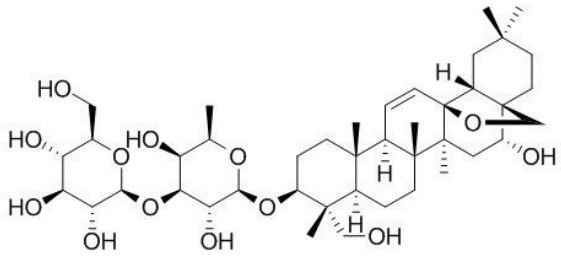
Catalog No.: CFN99989

Cas No.: 20874-52-6

Purity: > 98%

M.F: $C_{42}H_{68}O_{13}$

M.W: 780.96



Physical Description: Powder

Synonyms:(3b,4a,16a)-13,28-Epoxy-16,23-dihydroxyolean-11-en-3-yl 6-deoxy-3-O-beta-D-glucopyranosyl beta-D-galactopyranoside.

[Intended Use]

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

[Source]

The herb of *Bupleurum chinense DC.*

[Biological Activity or Inhibitors]

SaikosaponinD (SSd) is a major triterpenoid saponin derivative from Radix bupleuri, which has been long used in Chinese traditional medicine for treatment of various inflammation-related diseases; it shows potent anti-inflammatory activity through inhibitory effects on NF-κB activation and thereby on iNOS, COX-2 and pro-inflammatory cytokines.[1]

Saikosaponin D attenuates CCl4-induced hepatic fibrosis in rats, which may be related to its effects of hepato-protective and anti-inflammation properties,the down-regulation of liver TNF-α, IL-6 and NF-κBp65 expression and the increased I-κBα activity in liver.[2]

Saikosaponin D is an agonist of the glucocorticoid receptor (GR), and it possesses neuroprotective effects in corticosterone-treated PC12 cells; SSD exhibits its anti-apoptotic effects via differential regulation of mitochondrial and nuclear GR translocation, partial reversal of mitochondrial dysfunction, inhibition of the mitochondrial apoptotic pathway, and selective activation of the GR-dependent survival pathway.[3]

Saikosaponin D is a novel autophagic inducer, can increase cytosolic calcium level via direct inhibition of sarcoplasmic/endoplasmic reticulum Ca(2+) ATPase pump, leading to autophagy induction through the activation of the Ca(2+)/calmodulin-dependent kinase kinase-AMP-activated protein kinase-mammalian target of rapamycin pathway, which has the potential of being developed into an anti-cancer agent for targeting apoptosis-resistant cancer cells.[4]

[Solvent]

Pyridine, Methanol, Ethanol, Hot water, etc.

[HPLC Method][5]

Mobile phase: Acetonitrile : H2O=38:62;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 210 nm.

[Storage]

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

[References]

[1] Lu C N, Yuan Z G, Zhang X L, *et al. Int. Immun. Pharmacol., 2012, 14(1):121-6.*

[2] Dang S S, Wang B F, Cheng Y A, *et al. World J. Gastroentero., 2007, 13(4):557-63.*

[3] Li Z Y, Jiang Y M, Liu Y M, et al. *Prog Neuro-Psychoph., 2014, 53(1448):80-9.*

[4] Wong V K, Li T, Law B Y, et al. *Cell Death Dis., 2012, 4(7):e720-e720.*

[5] Liu L Z, Ji XJ, Ya BQ. *China Pharmacy, 2014, 25(23):2147-9.*

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