Natural Products

ChemFaces

Senegenin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Senegenin

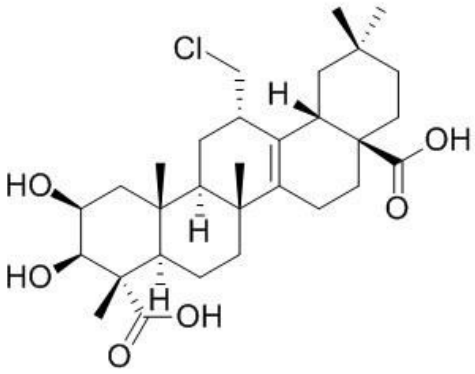
Catalog No.: CFN99109

Cas No.: 2469-34-3

Purity: > 98%

M.F: $C_{30}H_{45}ClO_6$

M.W: 537.14



Physical Description: Powder

Synonyms:13-(Chloromethyl)-2,3-dihydroxy-4,6a,11,11,14b-pentamethyl-2,3,4a,5,6,7,8,9,10,12,12a,13,14,14a-tetradecahydro-1H-picene-4,8a-dicarboxylic acid.

[Intended Use]

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

[Source]

The root of *Polygala tenuifolia Willd.*

[Biological Activity or Inhibitors]

Senegenin(Sen), an effective component of Polygala tenuifolia root extract, promotes proliferation and differentiation of neural progenitor cells in the hippocampus, it contributes to in vitro proliferation of human neural progenitor cells by upregulating phosphorylation of extracellular signal-regulated kinase.[1]

Senegenin plays a neuroprotective role in HIR via increasing NR2B expression in rat hippocampus, suggests that senegenin might be a potential agent for prevention and treatment of postoperative cognitive dysfunction (POCD) or other neurodegenerative diseases.[2]

Senegenin attenuates H/R-induced neuronal by upregulating RhoGDIα expression and inhibiting the pathway, the mechanism underlying neuroprotective effects of Sen, RhoGDIα was identified as a putative target of Sen based on a primary rat cortical neuron model of H/R-induced injury.[3]

Senegenin exhibits neuroprotective effects against splenectomy-induced transient cognitive impairment in elderly rats, which indicates that senegenin may be a promising agent for the treatment of postoperative cognitive dysfunction (POCD).[4]

Senegenin treatment significantly attenuates CLP-induced lung injury, including reduction of lung wet/dry weight ratio, protein leak, infiltration of leukocytes, and MPO activity; it markedly decreases MDA content , serum levels of TNF-α and IL-1β and increases SOD activity and GSH level; it also inhibit the nuclear translocation of NF-κB in the lungs; indicates that senegenin exerts protective effects on CLP-induced septic rats, it may be a potential therapeutic agent against sepsis.[5]

Senegenin can promote the proliferation and differentiation of human neural stem cells in vitro,and this effect may be induced by the up-regulation of Hes1 and Mash1 gene expression.[6]

[Solvent]

Pyridine, DMSO, Methanol.

[HPLC Method][7]

Mobile phase: Acetonitrile-H2O-36% Acetic acid H20=49:51:0.5 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 215 nm.

[Storage]

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

[References]

[1] Shi F, Liang Z, Guo Z, *et al. N.R. R., 2011, 6(3):171-6.*

[2] Xie W, Yang Y, Gu X, *et al. Plos One, 2012, 7(9):e45575-e45575.*

[3] Li XM , Zhao Y D, Liu PD, *et al. Mol. Neurobiol., 2014, 52(3):1-11.*

[4] Yu L, Sun L, Chen S. *Exp. Ther. Med., 2014, 7(4):821-6.*

[5] Liu C H, Zhang W D, Wang J J, *et al. Inflammation, 2016, 39(2):1-7.*

[6] Shi F, Liang Z, Guo Z, *et al. Journal of Capital Medical University, 2013, 34(4):559-65.*

[7] Yang G H, Sun X F. *Chinese Journal of Pharmaceutical Analysis, 2001,21(4):260-2.*

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