Natural Products

ChemFaces

Kirenol Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Kirenol

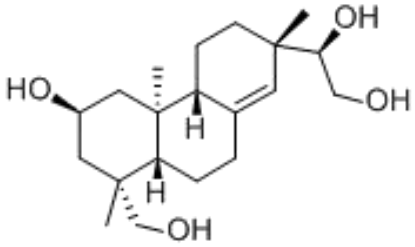
Catalog No.: CFN98867

Cas No.: 52659-56-0

Purity: >=98%

M.F: $C_{20}H_{34}O_4$

M.W: 338.48



Physical Description: Powder

Synonyms:(1R,3S,4aS,4bS,7S,10aS)-1,2,3,4,4a,4b,5,6,7,9,10,10a-Dodecahydro-3-hydroxy-7-[(R)-1,2-dihydroxyethyl]-1,4a,7-trimethylphenanthrene-1-methanol.

[Intended Use]

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

[Source]

The herb of *Siegesbeckia orientalis.*

[Biological Activity or Inhibitors]

Kirenol is a major diterpenoid components of Herba Siegesbeckiae, which has been applied for arthritic therapy for centuries, it shows anti-inflammatory effect in rats, it also exerts a potent anti-arthritic effect in collagen-induced arthritis by modifying the T cells balance, thus, kirenol may be a potential immunosuppressant for the treatment for rheumatoid arthritis [1]

Kirenol can upregulate nuclear Annexin-1 which interacts with NF-κB to attenuate synovial inflammation of collagen-induced arthritis in rats.[2]

Kirenol, a natural diterpenoid compound, has been reported to possess anti-oxidant, anti-inflammatory, anti-allergic, and anti-arthritic activities; it is capable of inhibiting the differentiation and lipogenesis of 3T3-L1 adipocytes through the activation of the Wnt/β-catenin signaling pathway, suggesting its potential as natural anti-obesity agent.[3]

Kirenol is effective against gram-positive bacteria. [4]

Kirenol has significant potential for its discovery as a new lead compound for management of topical pain and inflammation.[5]

Kirenol can attenuate experimental autoimmune encephalomyelitis by inhibiting differentiation of Th1 and th17 cells and inducing apoptosis of effector T cells.[6]

Kirenol possesses antitumor action on human chronic myeloid leukemia K562 cells in vitro, it may have therapeutic potential for the treatment of cancer that deserves further investigation. [7]

Kirenol is capable of promoting osteoblast differentiation in MC3T3-E1 cells through activation of the BMP and Wnt/β-catenin signaling pathways, suggesting that it is a potential candidate target for treating or preventing osteoporosis.[8]

[Solvent]

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

[HPLC Method][9]

Mobile phase: Acetonitrile- H2O, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 215 nm.

[Storage]

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

[References]

[1] Lu Y, Xiao J, Wu Z W, *et al. Phytomed. Int. J. Phytother. Phytopharmacol., 2012, 19(10):882-9.*

[2] Wang Z M, Zhu S G, Wu Z W, *et al. J. Ethnopharmacol., 2011, 137(1):774-82.*

[3] Kim M B, Song Y, Kim C, *et al. Biochem. Bioph. Res.Co., 2014, 445(2):433-8.*

[4] Wang J P, Zhou Y M, Zhang Y H. *Pharmacogn. Mag., 2012, 8(30):149-55.*

[5] Wang J P, Zhou Y M, Ye Y J, *et al. J. Ethnopharmacol., 2011, 137(3):1089-94.*

[6] Xiao J, Yang R, Yang L, *et al. Sci. Rep-UK., 2015; 5: 9022.*

[7] Lu Y, Qian R, Xiao J, *et al. Die Pharmazie, 2014, 69(2):148-53.*

[8] Kim M B, Song Y, Hwang J K. *Fitoterapia, 2014, 98:59-65.*

[9] Yan D X, Wang Y J, Duan Q, *et al. Chinese Pharmaceutical Journal, 2010, 45(12): 945-8.*

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