Natural Products

ChemFaces

Fraxinellone Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Fraxinellone

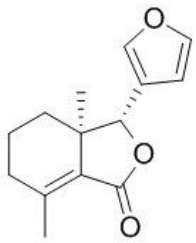
Catalog No.: CFN99782

Cas No.: 28808-62-0

Purity: >=98%

M.F: $C_{14}H_{16}O_3$

M.W: 232.28



Physical Description: White powder

Synonyms:1(3H)-Isobenzofuranone,3-(3-furanyl)-3a,4,5,6-;Tetrahydro-3a,7-dimethyl-,(3 R,3aR)- (9CI);3-(3-Furyl)-3a,4,5,6-tetrahydro-3a,7-dimethylphthalide; (3R)-3 β -(3-Furyl)-3a,4,5,6-tetrahydro-3a β ,7-dimethylisobenzofuran-1(3H)-one.

[Intended Use]

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

[Source]

The herbs of *Swertia bimaculata.*

[Biological Activity or Inhibitors]

Fraxinellone is formed by the natural degradation of limonoids isolated from the root bark of Dictamnus dasycarpus, it possesses neuroprotective and vasorelaxing activities, it also has anti-inflammatory activity, the anti-inflammatory properties of fraxinellone are related to the down-regulations of iNOS and COX-2 due to NF-kappa B inhibition through the negative regulations of IKK and ERK1/2 phosphorylations in RAW 264.7 cells.[1]

Fraxinellone is a selective blocker of voltage-dependent Ca2+ channel, while dictamine relaxed the rat aorta by suppressing the Ca2+ influx through both voltage-dependent and receptor-operated Ca2+ channels.[2]

Fraxinellone can dramatically induce apoptosis of activated peripheral CD4(+) T cells in vivo, consequently resulting in less CD4(+) T-cell activation and infiltration to the liver, suggests that fraxinellone may be a potential leading compound useful in treating T-cell-mediated liver disorders in humans. [3]

Fraxinellone exhibits a variety of insecticidal activities including feeding-deterrent activity, inhibition of growth, and larvicidal activity.[4]

Fraxinellone has antimicrobial activity, the inhibition rate of fraxinellone at 50ppm reached 100%, 99.8% and 99.8% against Escherichia coli, Staphlococcus aurens and Bacillus megathrium, respectively.[5]

[Solvent]

Pyridine, Methanol, Ethanol, etc.

[HPLC Method][6]

Mobile phase: Methanol -H2O=70:30 ;

Flow rate: 0.5 ml/min;

Column temperature: 25 ℃;

The wave length of determination: 240 nm.

[Storage]

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

[References]

[1] Kim J H, Park Y M, Shin J S, *et al. Biol. Pharmaceut. Bull., 2009, 32(6):1062-8.*

[2] Yu S M, Ko F N, Su M J, *et al. Archiv Für Experimentelle Pathologie Und Pharmakologie, 1992, 345(3):349-55.*

[3] Sun Y, Qin Y, Gong F Y*, et al. Biochem. Pharmacol., 2009, 77(11):1717-24.*

[4] Lü M, Wu W, Liu H.*Molecules, 2013, 18(18):2754-62.*

[5] Yuan C, Wang X, Yang D. *Chemical Journal on Internet, 2006(1).*

[6] Yuan C L, Yang D S. *China Journal of Chinese Materia Medica, 2006, 31(12):992-4.*

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