Natural Products

ChemFaces

Parthenolide Datasheet

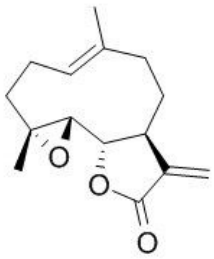
4th Edition (Revised in July, 2016)

[Product Information]

Name: Parthenolide

Catalog No.: CFN98034

Cas No.: 20554-84-1



Purity: >=98%

M.F: $C_{15}H_{20}O_3$

M.W: 248.32

Physical Description: Powder

Synonyms:2,3,6,7,7a,8,10a,10b-Octahydro-1a,5-dimethyl-8-methyleneoxireno(9,10)cyclodeca(1,2-b)furan-9(1aH)-one;(1aR,4Z,7aS,10aS,10bS)-1a,5-dimethyl-8-methylidene-2,3,6,7,7a,8,10a,10b-octahydrooxireno[9,10]cyclodeca[1,2-b]furan-9(1aH)-one.

[Intended Use]

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

[Source]

The herbs of *Tanacetum parthenium.*

[Biological Activity or Inhibitors]

Parthenolide (PTL), a naturally occurring small molecule, induces robust apoptosis in primary human AML cells and blast crisis CML (bcCML) cells while sparing normal hematopoietic cells, the molecular mechanism of PTL-mediated apoptosis is strongly associated with inhibition of nuclear factor kappa B (NF-kappaB), proapoptotic activation of p53, and increased reactive oxygen species (ROS); proposes that the activity of PTL triggers leukemia stem cells (LSCs) -specific apoptosis and as such represents a potentially important new class of drugs for LSC-targeted therapy.[1]

Parthenolide has anti-inflammatory activity, the parthenolide targets this kinase complex provides a possible molecular basis for the anti-inflammatory properties of parthenolide.[2]

Parthenolide cooperates with NS398 to inhibit growth of human hepatocellular carcinoma cells through effects on apoptosis and G0-G1 cell cycle arrest. [3]

Parthenolide inhibits nociception and neurogenic vasodilatation in the trigeminovascular system by targeting the TRPA1 channel, may contribute to the antimigraine effect of parthenolide.[4]

Parthenolide, an inhibitor of the nuclear factor-kappaB pathway, cam ameliorate cardiovascular derangement and outcome in endotoxic shock in rodents.[5]

Parthenolide has in vitro activity against Leishmania amazonensis.[6]

Parthenolide exhibits a variety of anti-inflammatory and immunomodulatory effects, it can attenuate LPS-induced fever, circulating cytokines and markers of brain inflammation in rats, has the potential to reduce brain inflammation.[7]

[Solvent]

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

[HPLC Method][8]

Mobile phase: Methanol -H2O=60:40 ;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 214 nm.

[Storage]

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

[References]

[1] Guzman ML, Rossi RM, Karnischky L, *et al. Blood, 2005, 105(11):4163-9.*

[2] Kwok B H B, Koh B, Ndubuisi M K I, *et al. Chem. Biol., 2001, 8(8):759-66.*

[3] Ralstin M C, Gage E A, Yip-Schneider M T, *et al. Molecular Cancer Research Mcr, 2006, 4(6):387-99.*

[4] Materazzi S, Benemei S, Fusi C, *et al. Pain, 2013, 154(12):2750-8.*

[5] Sheehan M, Wong H R, Hake P W, *et al. Mol. Pharmacol., 2002, 61(5):953-63.*

[6] Tiuman T S, Da U N T C, Dias Filho B P, *et al. Antimicrob.Agents Ch. 2005, 49(1): 176-82.*

[7] Rummel C, Gerstberger R, Roth J, *et al. Cytokine, 2011, 56(3):739-48.*

[8] Ghafari S, Esmaeili S, Naghibi F, *et al. J. Pharmaceut.Res. Health Care, 2013, 2(3): 270.*

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