Natural Products

ChemFaces

Tormentic acid Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Tormentic acid

Catalog No.: CFN99434

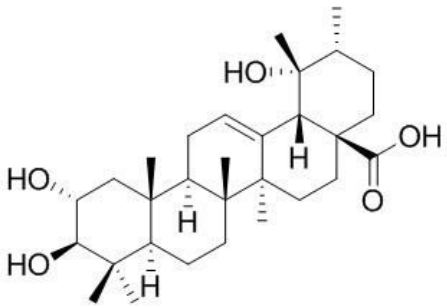
Cas No.: 13850-16-3

Purity: > 98%

M.F: $C_{30}H_{48}O_5$

M.W: 488.7

Physical Description: Powder



Synonyms: 2α,19α-Dihydroxyursolic acid; 2α,3β,19α-Trihydroxyurs-12-en-28-oic acid.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food and cosmetic research;
4. Synthetic precursor compounds;
5. Others.

[Source]

The herb of *Potentilla tormentilla.*

[Biological Activity or Inhibitors]

Tormentic acid(TA), a triterpene isolated from plant, has anti-allodynic action, can inhibit

markedly the neuropathic allodynia induced by partial ligation of the sciatic nerve, it or its derivatives might be of potential interest in the development of new clinically relevant drugs for the management of persistent neuropathic and inflammatory allodynia.[1]

Tormentic acid has anti-inflammatory activity, it potently inhibits the production of nitric oxide (NO) in RAW 264.7 cells, also suppresses the LPS-stimulated degradation and phosphorylation of inhibitor of kappa B-α (IκB-α), suggests that the anti-inflammatory activity of TA is associated with the down-regulation of iNOS, COX-2, and TNF-α through the negative regulation of the NF-κB pathway in RAW 264.7 cells.[2]

Tormentic acid has anticancer, anti-atherogenic properties and minimal toxicity in vivo, it also can reduce vascular smooth muscle cell proliferation and survival.[3]

Tormentic acid has protective effect against lipopolysaccharide/D-galactosamine induced fulminant hepatic failure in mice.[4]

Tormentic acid can inhibit lipopolysaccharide-induced inflammatory response in human gingival fibroblasts via inhibition of TLR4-mediated NF-κB and MAPK signalling pathway.[5]

[Solvent]

Pyridine, DMSO.

[HPLC Method][6]

Mobile phase: Acetonitrile- Phosphoric acid H2O (pH = 2.5),gradient elution ;

Flow rate: 0.8 ml/min;

Column temperature: 20 ℃;

The wave length of determination: 210 nm.

[Storage]

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

[References]

[1] Bortalanza L B, Ferreira J, Hess S C, *et al. Eur. J. Pharmacol., 2002, 453(2-3):203-8*.

[2] An H J, Kim I T, Park H J, *et al. Int. Immunopharmacol., 2011, 11(4):504-10.*

[3] Fogo A S, Antonioli E, Calixto J B, *et al. Eur. J. Pharmacol., 2009, 615(615):50-4.*

[4] Lin X, Zhang S, Huang R, *et al. Int. Immunopharmacol., 2014, 19(2):365-72.*

[5] Jian C X, Li M Z, Zheng W Y, *et al. Arch. Oral Biol., 2015, 60(9):1327-32.*

[6] AJóźwiak, G Jóźwiak, Waksmundzka-Hajnos M. *Acta Chromatogr., 2014, 26(1): 97-110.*

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