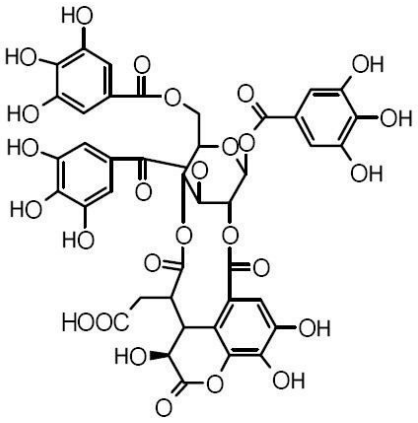
Natural Products

ChemFaces

Chebulinic acid Datasheet

4th Edition (Revised in July, 2016)

[Product Information]



Name: Chebulinic acid

Catalog No.: CFN92296

Cas No.: 18942-26-2

Purity: > 98%

M.F: $C_{41}H_{32}O_{27}$

M.W: 956.7

Physical Description: Powder

Synonyms:

Eutannin; beta-D-Glucopyranose, cyclic 2,4-ester with 3-(6-carboxy-2,3,4-trihydro-xyphenyl)-4-hydroxy-1,2,4-butanetricarboxylic acid, 1,3,6-tris(3,4,5-trihydroxybenzoate).

[Intended Use]

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

[Source]

The fruits of *Terminalia chebula.*

[Biological Activity or Inhibitors]

Chebulinic acid and corilagin, tannins from Lumnitzera, racemosa, have antihypertensive activity.[1]

Chebulinic acid from Terminalia chebula Linn. , has moderate antioxidant activities and has in-vitro anti-inflammatory activity against the denaturation of protein.[2,3]

Chebulinic acid and tellimagrandin I induce the copper-dependent strand breaks of pBR322 plasmid DNA and MRC-5 genomic DNA with prooxidant action, in which Cu(II)/Cu(I) redox cycle and H2O2 are involved and hydroxyl radical formation is important in the hypothetical mechanism by which DNA strand breaks are formed.[4]

Triphala and its active constituent chebulinic acid are natural inhibitors of vascular endothelial growth factor-a mediated angiogenesis, can significantly and specifically inhibit VEGF induced angiogenesis by suppressing VEGF receptor-2 (VEGFR-2) phosphorylation.[5]

Chebulinic acid has gastro protective activity, can significantly reduce free acidity , total acidity and upregulate mucin secretion; it also significantly inhibits H+ K+-ATPase activity in vitro with IC50 of 65.01 ug/ml as compared to the IC50 value of omeprazole (30.24 μg/ml) confirming its anti-secretory activity[6]

Chebulinic acid as potent natural inhibitor of M. tuberculosis DNA gyrase, it displays desirable quality for carrying forward as a lead compound for anti-tuberculosis drug development.[7]

Chebulagic acid and chebulinic acid show antifibrotic effects through the inhibition of Smad pathway in the TGF-β1-induced hepatic stellate cells.[8]

[Solvent]

Pyridine, Methanol, Ethanol, Hot water, etc.

[HPLC Method][9]

Mobile phase: Acetonitrile-0.001M Potassium dihydrogen phosphate[adds orthphosphoric acid (0.5 ml)], gradient eiution ;

Flow rate: 1.5 ml/min;

Column temperature: 40 ℃;

The wave length of determination: 270 nm.

[Storage]

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

[References]

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[5] Lu K, Chakroborty D, Sarkar C, *et al. Plos One, 2012, 7(8):906-7.*

[6] Mishra V, Agrawal M, Onasanwo S A, *et al. Phytomedicine International Journal of Phytotherapy & Phytopharmacology, 2013, 20(6):506-11.*

[7] Patel K, Tyagi C, Goyal S, *et al. Comput. Biol.Chem., 2015, 59(Pt A):37-47.*

[8] Hsin-Ying Chuang, Lean-Teik Ng, Liang-Tzung Lin,*et al. J. Sci. Food Agr., 2011, 91(15):2777-84.*

[9] Pawar V, Lahorkar P, Narayana D B A. *Indian J. Pharm. Sci., 2009, 71(4):382-6.*

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