

Chebulagic acid Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Chebulagic acid Catalog No.: CFN92295 Cas No.: 23094-71-5 Purity: > 98% M.F: C₄₁H₃₀O₂₇ M.W: 954.7 Physical Description: Powder



Synonyms:

beta-D-Glucopyranose, cyclic 3,6-(4,4',5,5',6,6'-hexahydroxy(1,1'-biphenyl)-2,2'-dicarb oxylate) 1-(3,4,5-trihydroxybenzoate), cyclic 2-5:4-1-ester with (5-carboxy-3,4-dihydro-3,7,8-trihydroxy-2-oxo-2H-1-benzopyran-4-yl)butanedioic acid, stereoisomer.

[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]

Chebulagic acid, isolated from the fruits of Terminalia, it shows potent COX–LOX dual inhibition activity with IC50 values of 15 ± 0.288 , 0.92 ± 0.011 and $2.1 \pm 0.057 \mu$ M for COX-1, COX-2 and 5-LOX respectively, it also shows anti-proliferative activity against HCT-15, COLO-205, MDA-MB-231, DU-145 and K562 cell lines, it induces apoptosis in COLO-205 cell line.^[1]

Chebulagic acid significantly suppresses the onset and progression of arthritis (CIA) in mice, immune suppression via the induction of TGFbeta and CD4+,CD25+ T cells may represent a new strategy in the development of therapies for managing rheumatoid arthritis and other inflammatory diseases.^[2]

Chebulagic acid, a natural anti-oxidant, shows potent anti-inflammatory effects by suppressing NF-κB and MAPK activation in LPS-stimulated RAW 264.7, a mouse macrophage cell line.^[3]

Chebulagic acid can reduce the viral cytopathic effect on rhabdomyosarcoma cells with an IC50 of 12.5 ug/mL, the utilization of the chebulagic acid treatment on mice challenged with a lethal dose of enterovirus 71 is able to efficiently reduce mortality and relieve clinical symptoms through the inhibition of viral replication, suggests that chebulagic acid may represent a potential therapeutic agent to control infections to enterovirus 71.^[4] Chebulagic acid and punicalagin have broad-spectrum antiviral activity against viruses that use glycosaminoglycans for entry.^[5]

Chebulagic Acid is a potent α-glucosidase inhibitor, has anti-hyperglycemic effect .^[6,7] Chebulagic acid has neuroprotective effect via autophagy induction in SH-SY5Y cells.^[8]

[Solvent]

Pyridine, DMSO, Methanol, Ethanol, Hot water, etc.

[HPLC Method]^[9]

Mobile phase: Methanol-2% Acetic acid H2O=27:73;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 280 nm.

[Storage]

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

[References]

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[4] Yang Y, Xiu J, Liu J, et al. Int. J. Mol. Sci., 2013, 14(5):9618-27.

[5] Lin L T, Chen T Y, Lin S C, et al. Bmc Microbiol., 2013, 13(1): 187-91.

[6] Huang Y N, Zhao D D, Gao B, et al. Int. J. Mol .Sci., 2012, 13(5):6320-33.

[7] Gao H, Huang Y N, Gao B, et al. Biosci. Biotech. Bioch., 2008, 72(2):601-3.

[8] Kim H J, Kim J, Kang K S, et al. Biomol. Ther., 2014, 22(4):275-81.

[9] Nie G H, Li Z G, Lv Y Q, et al. Chinese Pharmaceutical Journal, 2001, 36 (8): 517-9.

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