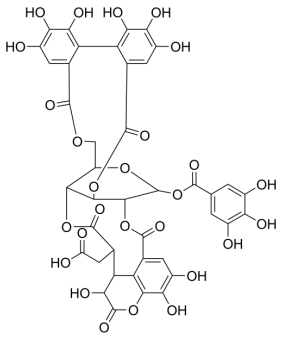
Chebulagic acid



Cat. No.: HY-N1996

CAS No.: 23094-71-5

Molecular Formula: $C_{41}H_{30}O_{27}$

Molecular Weight: 954.66

Target: Influenza Virus; COX; Lipoxygenase; SARS-CoV

Pathway: Anti-infection; Immunology/Inflammation; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month

SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (104.75 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.0475 mL	5.2375 mL	10.4749 mL
	5 mM	0.2095 mL	1.0475 mL	2.0950 mL
	10 mM	0.1047 mL	0.5237 mL	1.0475 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.83 mg/mL (0.87 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.83 mg/mL (0.87 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.83 mg/mL (0.87 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Chebulagic acid is a COX-LOX dual inhibitor isolated from the fruits of Terminalia chebula Retz, on angiogenesis. Chebulagic acid is a M2 serine to asparagine 31 mutation (S31N) inhibitor and influenza antiviral. Chebulagic acid also against SARS-CoV-2 viral replication with an EC_{50} of 9.76 μM.

In Vitro

Chebulagic acid can enhance the autophagy. Chebulagic acid exert anti-inflammatory and anti-infective effects. Chebulagic acid also shows a protective effect against 1-methyl-4-phenylpyridinium (MPP+)-induce cytotoxicity which mimics the pathological symptom of Parkinson's disease. Chebulagic acid inhibits the LPS-induced upregulation of TNF-α and IL-1β in a

dose- and time-dependent manner. Furthermore, LPS-activated MAPK signaling is inhibited by Chebulagic acid treatment in the EA.hy926 cells.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Commun Signal. 2024 Oct 11;22(1):488.
- Pharmaceutics. 2024 Jun 02.
- Molecules. 2020 Jun 24;25(12):2903.
- Antivir Res. 2021, 105075.

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REFERENCES

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[2]. Liu Y et al. Chebulagic acid inhibits the LPS-induced expression of TNF-α and IL-1β in endothelial cells by suppressing MAPK activation. Exp Ther Med. 2015 Jul;10(1):263-268.

[3]. Athira AP et al. Inhibition of Angiogenesis In Vitro by Chebulagic Acid: A COX-LOX Dual Inhibitor. Int J Vasc Med. 2013;2013:843897.

[4]. Maggie C. Duncan, et al. Virtual Screening Identifies Chebulagic Acid as an Inhibitor of the M2(S31N) Viral Ion Channel and Influenza A Virus. Molecules 2020, 25, 2903.

[5]. RuikunDu, et al. Discovery of Chebulagic Acid and Punicalagin as Novel Allosteric Inhibitors of SARS-CoV-2 3CLpro. Antivir Res. 2021, 105075.

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