

Isoimperatorin

Chemical Properties

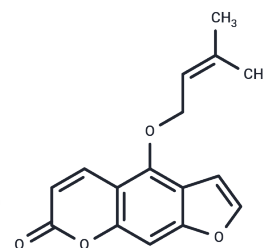
CAS No. : 482-45-1

Formula: C₁₆H₁₄O₄

Molecular Weight: 270.28

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Isoimperatorin is an anti-inflammatory agent, exhibits significant inhibitory effects on acetylcholinesterase (AChE).
Targets(IC50)	Antibacterial, Cholinesterase (ChE)
In vitro	The ethanol extract from <i>Notopterygium incisum</i> rhizomes displays significant nematocidal activity against nematodes <i>Bursaphelenchus xylophilus</i> and <i>Meloidogyne incognita</i> , discovered during a search for new agrochemicals from Chinese medicinal herbs. Four components—Columbianetin, Falcarindiol, Falcarinol, and Isoimperatorin—were isolated and identified from the extract via bioactivity-guided fractionation. Isoimperatorin exhibited notable efficacy with an LC ₅₀ value of 21.83 µg/mL against <i>B. xylophilus</i> . Under 15 min UV light exposure, Falcarindiol, Falcarinol, and Isoimperatorin showed nearly quintuple toxicity increase toward southern root-knot nematodes compared to dark conditions, whereas Columbianetin's toxicity doubled. Additionally, Isoimperatorin has been proven to have insecticidal properties against various insects, including the cabbage aphid (<i>Brevicoryne brassicae</i>). It has been found in the active fraction of <i>Angelica dahurica</i> (AD) extract and is frequently used as the internal standard (IS) in assays.

Solubility Information

Solubility	DMSO: 10 mg/mL (37 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	---

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6999 mL	18.4993 mL	36.9987 mL
5 mM	0.740 mL	3.6999 mL	7.3997 mL
10 mM	0.370 mL	1.8499 mL	3.6999 mL
50 mM	0.074 mL	0.370 mL	0.740 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Kim DK, et al. Acetylcholinesterase inhibitors from the roots of *Angelica dahurica*. *Arch Pharm Res.* 2002 Dec;25(6): 856-9.

Liu G, et al. Identification of Nematicidal Constituents of *Notopterygium incisum* Rhizomes against *Bursaphelenchus xylophilus* and *Meloidogyne incognita*. *Molecules.* 2016 Sep 23;21(10). pii: E1276.

Park EY, et al. *Angelica dahurica* Extracts Improve Glucose Tolerance through the Activation of GPR119. *PLoS One.* 2016 Jul 8;11(7):e20158796.

Yu XA, et al. The pharmacokinetics, bioavailability and excretion of bergapten after oral and intravenous administration in rats using high performance liquid chromatography with fluorescence detection. *Chem Cent J.* 2016 Oct 14;10:62.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481