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Produktinformation

- Forschungsprodukte & Biochemikalien
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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Elemicin

Cat. No.: HY-N6807

CAS No.: 487-11-6

Molecular Formula: $C_{12}H_{16}O_3$

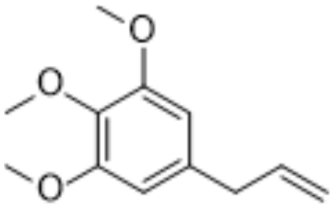
Molecular Weight: 208.25

Target: Stearoyl-CoA Desaturase (SCD); Influenza Virus; Bacterial

Pathway: Metabolic Enzyme/Protease; Anti-infection

Storage: 4°C, stored under nitrogen

* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (480.19 mM; Need ultrasonic)

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	4.8019 mL	24.0096 mL	48.0192 mL
	5 mM	0.9604 mL	4.8019 mL	9.6038 mL
	10 mM	0.4802 mL	2.4010 mL	4.8019 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: ≥ 2.5 mg/mL (12.00 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (12.00 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (12.00 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Elemicin is an orally active alkenylbenzene widely distributed in many herbs and spices. Elemicin inhibits Stearoyl-CoA Desaturase 1 (SCD1) by metabolic activation. Elemicin has anti-influenza activities, antimicrobial, antioxidant, and antiviral activities. Elemicin and its reactive metabolite of 1′-Hydroxyelemicin can induce hepatotoxicity[1][2][3][4].

IC_{50} & Target

SCD1[1]

In Vitro

Elemicin (62.5, 125, 250, 500, 1000 μM) has an IC_{50} value of 910 μM in HepG2 cells[2].

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

In Vivo	Elemicin (500 mg/kg; orally gavage; every 24 h for 3 weeks) impairs liver function in mice. Elemicin inhibits liver SCD1, leading to a disequilibrium of lysophosphatidylcholines (LPCs)[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male 20-22 g wild-type C57BL/6J mice[3]
Dosage:	500 mg/kg suspended in 0.5% CMC-Na
Administration:	Orally gavage; every 24 h for 3 weeks
Result:	Significantly increased liver weights, elevated TG levels in plasma and liver, reduced the total plasma GSH and GSSG.

REFERENCES

[1]. Yi-Kun Wang, et al. Role of Metabolic Activation in Elemicin-Induced Cellular Toxicity. J Agric Food Chem. 2019 Jul 24;67(29):8243-8252.

[2]. Xiao-Nan Yang, et al. Metabolic Activation of Elemicin Leads to the Inhibition of Stearoyl-CoA Desaturase 1. Chem Res Toxicol. 2019 Oct 21;32(10):1965-1976.

[3]. Ayodeji Oluwabunmi Oriola, et al. Essential Oils and Their Compounds as Potential Anti-Influenza Agents. Molecules. 2022 Nov 12;27(22):7797.

[4]. Yang XN, et al. Metabolic Activation of Elemicin Leads to the Inhibition of Stearoyl-CoA Desaturase 1. Chem Res Toxicol. 2019 Sep 10.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA