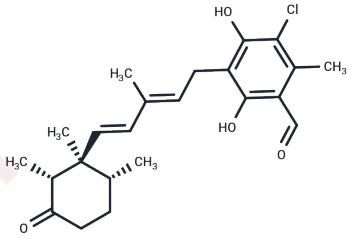
Data Sheet (Cat.No.T14330)

TargetMol

Ascochlorin

Chemical Properties



CAS No. : 26166-39-2

Formula: C23H29ClO4

Molecular Weight: 404.93

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	Ascochlorin (Ilicicolin D), an isoprenoid antibiotic, primarily exerts anti-tumor properties by inhibiting the STAT3 signaling pathway, inducing apoptosis, and possessing anti-inflammatory activity[1][2][3].
Targets(IC50)	Apoptosis,Antibiotic,STAT
In vitro	Ascochlorin inhibits the mRNA expression and the protein secretion of interleukin (IL)-1β and IL-6 but not tumor necrosis factor (TNF)-α in LPS-stimulated RAW 264.7 macrophage cells. Ascochlorin (Ilicicolin D) (10-50 μM; 24-72 hours) inhibits the viability of HepG2, HCCLM3 and Huh7 cells in a time and dose dependent manner[3]. Ascochlorin (1-50 μM) significantly suppresses the production of nitric oxide (NO) and prostaglandin E2 (PGE2) and decreases the gene expression of inducible NO synthase (iNOS) and cyclooxygenase-2 (COX-2) in a dose-dependent manner. Ascochlorin (50 μM; 48 hours) induces apoptosis in HCC cells[3]. Ascochlorin suppresses nuclear translocation and DNA binding affinity of nuclear factor-κB (NF-κB). Ascochlorin down-regulates phospho-extracellular signal-regulated kinase 1/2 (p-ERK1/2) and p-p38[2].
In vivo	Ascochlorin (Ilicicolin D) (2.5-5 mg/kg; i.p.; administered on specific days) inhibits tumor growth in an orthotopic HCC mouse model[1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4696 mL	12.3478 mL	24.6956 mL
5 mM	0.4939 mL	2.4696 mL	4.9391 mL
10 mM	0.247 mL	1.2348 mL	2.4696 mL
50 mM	0.0494 mL	0.247 mL	0.4939 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

Min-Wen JC, et al. Molecular Targets of Ascochlorin and Its Derivatives for Cancer Therapy. Adv Protein Chem Struct Biol. 2017;108:199-225.

Lee SH, et al. Anti-Inflammatory Effect of Ascochlorin in LPS-Stimulated RAW 264.7 Macrophage Cells Is Accompanied With the Down-Regulation of iNOS, COX-2 and Proinflammatory Cytokines Through NF-κB, ERK1/2, and p38 Signaling Pathway. J Cell Biochem. 2016 Apr;117(4):978-87.

Dai X, et al. Ascochlorin, an isoprenoid antibiotic inhibits growth and invasion of hepatocellular carcinoma by targeting STAT3 signaling cascade through the induction of PIAS3. Mol Oncol. 2015 Apr;9(4):818-33.

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