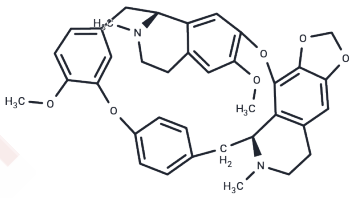
Data Sheet (Cat.No.T0131)

TargetMol

Cepharanthine

Chemical Properties



CAS No. : 481-49-2

Formula: C37H38N2O6

Molecular Weight: 606.71

Appearance: no data available

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

Biological Description

Description	Cepharanthine (NSC-623442) is a natural alkaloid that inhibits TNF-α-mediated NFκB stimulation, plasma membrane lipid peroxidation, and platelet aggregation, as well as cytokine production. Cepharanthine exhibits anti-inflammatory, antioxidant, and antitumor activities.
Targets(IC50)	Apoptosis,HIV Protease,Autophagy,TNF
In vitro	In a xenograft model using SAOS2 cells in athymic mice, daily treatment with Cepharanthine (20 mg/kg) significantly reduced tumor volume and weight.
In vivo	In SaOS2 cells, Cepharanthine (2.5-20 μmol/L) inhibits cell growth in a concentration- and time-dependent manner. At concentrations of 5-10 μmol/L, Cepharanthine markedly suppresses the expression of STAT3 target genes, including the anti-apoptotic gene Bcl-xL and cell cycle regulators c-Myc and cyclin D1. At 10 μmol/L, Cepharanthine induces a cell cycle arrest at the G1 phase and promotes apoptosis in SaOS2 cells. Furthermore, Cepharanthine (10-15 μmol/L) significantly reduces STAT3 expression in SAOS2 cells.

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 9.3 mg/mL (15.33 mM),Solution. DMSO: 50 mg/mL (82.41 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.6482 mL	8.2412 mL	16.4823 mL
5 mM	0.3296 mL	1.6482 mL	3.2965 mL
10 mM	0.1648 mL	0.8241 mL	1.6482 mL
50 mM	0.033 mL	0.1648 mL	0.3296 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.

Reference

Feng F, et al. Cepharanthine inhibits hepatocellular carcinoma cell growth and proliferation by regulating amino acid metabolism and suppresses tumorigenesis in vivo. Int J Biol Sci. 2021 Oct 22;17(15):4340-4352.
Xiao Y, Cai G P, Feng X, et al.Splicing factor YBX1 regulates bone marrow stromal cell fate during aging.The EMBO Journal.2023: e111762.
Chen G, Li J, Liu H, et al.Cepharanthine Ameliorates Pulmonary Fibrosis by Inhibiting the NF-κB/NLRP3 Pathway, Fibroblast-to-Myofibroblast Transition and Inflammation.Molecules.2023, 28(2): 753.
Biswas KK, et al. Cepharanthine triggers apoptosis in a human hepatocellular carcinoma cell line (HuH-7) through the activation of JNK1/2 and the downregulation of Akt. FEBS Lett. 2006 Jan 23;580(2):703-10.
Li P, Zhang R, Hu P, et al.Cepharanthine relieves nonalcoholic steatohepatitis through inhibiting STAT1/CXCL10 axis-mediated lipogenesis and inflammatory responses.Journal of Ethnopharmacology.2025: 119358.