

Haemanthamine

Chemical Properties

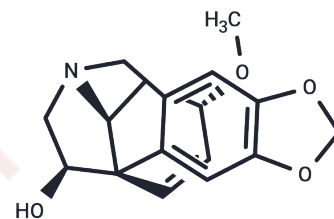
CAS No. : 466-75-1

Formula: C₁₇H₁₉NO₄

Molecular Weight: 301.34

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	Haemanthamine is an alkaloid isolated from the Amaryllidaceae plants with potent anticancer activity. It inhibits protein biosynthesis during the elongation stage of translation. It has antimalarial, pro-apoptotic, antiviral, antioxidant, and anticonvulsant activities.
Targets(IC50)	Apoptosis,Others,Parasite,Influenza Virus
In vitro	Haemanthamine binds at the A-site cleft of the peptidyl transferase center on the large ribosomal subunit, creating unique molecular interactions with the 25S rRNA. Haemanthamine has a highly specific inhibitory effect on pre-rRNA processing, leading to the activation of a p53-dependent antitumoral surveillance pathway known as nucleolar stress. Haemanthamine (1-100 μM; 24-48 hours; A2780 cells) treatment shows a time- and dose-dependent decrease in cell viability. Haemanthamine (10 μM; 24-72 hours; A2780 cells) treatment leads to a significant inhibition of A2780 cell proliferation.
In vivo	A pharmacokinetic study on Haemanthamine in rats indicates a swift distribution phase lasting 30 minutes, followed by a half-life of 70.4 minutes, primarily undergoing renal clearance. The extensive distribution volume of 13.7 L/kg implies robust intracellular penetration, with plasma concentrations exceeding 1 μM for over an hour following a single 10-mg/kg dose.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.3185 mL	16.5926 mL	33.1851 mL
5 mM	0.6637 mL	3.3185 mL	6.637 mL
10 mM	0.3319 mL	1.6593 mL	3.3185 mL
50 mM	0.0664 mL	0.3319 mL	0.6637 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

Pellegrino S, et al. The Amaryllidaceae Alkaloid Haemanthamine Binds the Eukaryotic Ribosome to Repress Cancer Cell Growth. *Structure*. 2018 Mar 6;26(3):416-425.e4.

Seifrtová M, et al. Haemanthamine alters sodium butyrate-induced histone acetylation, p21WAF1/Cip1 expression, Chk1 and Chk2 activation and leads to increased growth inhibition and death in A2780 ovarian cancer cells.

Phytomedicine. 2017 Nov 15;35:1-10.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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