

Product Data Sheet

Product Name: Haemanthamine

Cat. No.: GC65043

Chemical Properties

Cas. No. 466-75-1

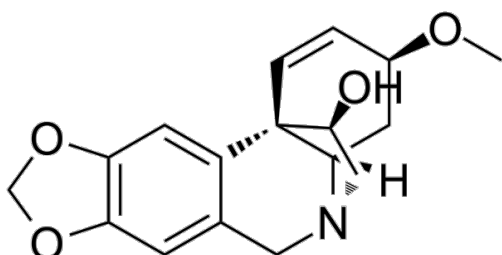
Formula C₁₇H₁₉NO₄ M.Wt 301.34

Solubility DMSO : 100 mg/mL (331.85 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

Haemanthamine is a crinine-type alkaloid isolated from the Amaryllidaceae plants with potent anticancer activity. Haemanthamine targets ribosomal that inhibits protein biosynthesis during the elongation stage of translation. Haemanthamine has pro-apoptotic, antioxidant, antiviral, antimalarial and anticonvulsant activities[1][2].

Haemanthamine (1-100 μM; 24-48 hours; A2780 cells) treatment shows a time- and dose-dependent decrease in cell viability[2]. Haemanthamine (10 μM; 24-72 hours; A2780 cells) treatment leads to a

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

significant inhibition of A2780 cell proliferation[2]. 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[1].

A pharmacokinetic study of Haemanthamine in rats shows a rapid distribution phase of 30 min, a half-life of 70.4 min, and a major clearance through renal elimination. The high distribution volume of 13.7 L/kg suggests a high intracellular penetration, and its plasmatic concentration remains higher than 1 μ M for at least 1 hr after a single 10-mg/kg administration[1].

[1]. 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.

[2]. Seifrtov 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.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA