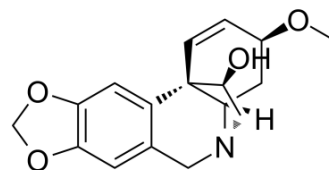


Haemanthamine

Cat. No.:	HY-114489A
CAS No.:	466-75-1
Molecular Formula:	C ₁₇ H ₁₉ NO ₄
Molecular Weight:	301.34
Target:	Apoptosis; Influenza Virus; Parasite
Pathway:	Apoptosis; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	<p>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]}.</p>																
In Vitro	<p>Haemanthamine (1-100 μM; 24-48 hours; A2780 cells) treatment shows a time- and dose-dependent decrease in cell viability^[2].</p> <p>Haemanthamine (10 μM; 24-72 hours; A2780 cells) treatment leads to a 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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[2]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>A2780 ovarian cancer cells</td> </tr> <tr> <td>Concentration:</td> <td>1 μM, 10 μM, 50 μM, 100 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 hours, 48 hours</td> </tr> <tr> <td>Result:</td> <td>Showed a time- and dose-dependent decrease in cell viability.</td> </tr> </table> <p>Cell Proliferation Assay^[2]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>A2780 ovarian cancer cells</td> </tr> <tr> <td>Concentration:</td> <td>10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 hours, 48 hours, 72 hours</td> </tr> <tr> <td>Result:</td> <td>Led to a significant inhibition of A2780 cell proliferation.</td> </tr> </table>	Cell Line:	A2780 ovarian cancer cells	Concentration:	1 μM, 10 μM, 50 μM, 100 μM	Incubation Time:	24 hours, 48 hours	Result:	Showed a time- and dose-dependent decrease in cell viability.	Cell Line:	A2780 ovarian cancer cells	Concentration:	10 μM	Incubation Time:	24 hours, 48 hours, 72 hours	Result:	Led to a significant inhibition of A2780 cell proliferation.
Cell Line:	A2780 ovarian cancer cells																
Concentration:	1 μM, 10 μM, 50 μM, 100 μM																
Incubation Time:	24 hours, 48 hours																
Result:	Showed a time- and dose-dependent decrease in cell viability.																
Cell Line:	A2780 ovarian cancer cells																
Concentration:	10 μM																
Incubation Time:	24 hours, 48 hours, 72 hours																
Result:	Led to a significant inhibition of A2780 cell proliferation.																
In Vivo	<p>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 μM for at least 1 hr after a single 10-mg/kg administration^[1].</p>																

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

REFERENCES

- [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]. 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.
-

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

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