Data Sheet (Cat.No.T2558)

TargetMol

Cladribine

Chemical Properties

CAS No. : 4291-63-8

Formula: C10H12ClN5O3

Molecular Weight: 285.687

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	Cladribine (2CdA), an adenosine deaminase inhibitor, is utilized in the treatment of lymphoproliferative diseases.
Targets(IC50)	Apoptosis,Adenosine Deaminase
In vitro	Cladribine inhibits cell growth in primary mast cells (MC) and the MC line HMC-1. It also reduces cell migration ability in CD14+ monocytes as well as CD4+ and CD8+ T lymphocytes. Additionally, Cladribine suppresses cell proliferation in U266, RPMI8226, and MM1.S cells in a dose-dependent manner.
In vivo	In adult zebrafish, intraperitoneal injection of Cladribine (0.7-3.5 mM) was found to inhibit the concentration levels of ATP in RBCs (Red Blood Cells).
Cell Research	The non-radioactive cell proliferation kit is used to determine cell viability. In brief, Human MM cell line U266, RPMI8226 and MM1.S are seeded onto 96-well plates with either 0.1 mL complete medium (5% FBS) as control, or 0.1 mL of the same medium containing a series of doses of cladribine, and incubated for 72 hours. After reading all wells at 490 nm with a micro-plate reader, the percentages of surviving cells from each group relative to controls, defined as 100% survival, are determined by reduction of MTS.(Only for Reference)

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 255.00 mg/mL (892.59 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5.00 mg/mL (17.50 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5003 mL	17.5015 mL	35.003 mL
5 mM	0.7001 mL	3.5003 mL	7.0006 mL
10 mM	0.350 mL	1.7501 mL	3.5003 mL
50 mM	0.070 mL	0.350 mL	0.7001 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

Ma J, et al. BMC Cancer. 2011, 11, 255.
Wang F, Xie M, Chen P, et al. Homoharringtonine combined with cladribine and aclarubicin (HCA) in acute myeloid leukemia: A new regimen of conventional drugs and its mechanism. Oxidative Medicine and Cellular Longevity. 2022
Guchelaar HJ, et al. Cancer Chemother Pharmacol. 1998, 42(1), 77-83.
Böhm A, et al. Exp Hematol. 2010, 38(9), 744-755.
Kopadze T, et al. Eur J Neurol. 2009, 16(3), 409-412.
Klein LC, et al. Biomarkers. 2009, 14(8), 554-559.