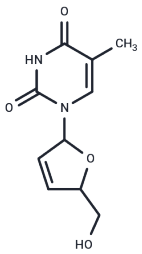
Data Sheet (Cat.No.T1404)

TargetMol

Stavudine

Chemical Properties



CAS No. : 3056-17-5

Formula: C10H12N2O4

Molecular Weight: 224.21

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	Stavudine (BMY-27857), a nucleoside reverse transcriptase inhibitor analog of thymidine, has activity against HIV.
Targets(IC50)	Apoptosis,Nucleoside Antimetabolite/Analog,HIV Protease,NOD-like Receptor (NLR), Reverse Transcriptase,Autophagy
In vitro	In lean mice, Stavudine (500 mg/kg/day) reduces mitochondrial DNA in the liver and muscle, inducing ketoacidosis during fasting periods. In obese mice, Stavudine (500 mg/kg/day) depletes mtDNA in White Adipose Tissue (WAT).
In vivo	Stavudine reduces lipid content and influences the expression of lipid metabolism markers, such as C/EBPα, peroxisome proliferator-activated receptor γ, adipocyte lipid-binding protein 2, fatty acid synthase, and acetyl-CoA carboxylase. In 3T3-F442A cells, Stavudine induces apoptosis and reduces both lipid content and viability in 3T3-L1 adipocytes. Furthermore, in peripheral blood mononuclear cells (PBMC), Stavudine inhibits the production of p24 antigen by HIV-1, with an effective dose range of 0.04 μM to 0.2 μM (ED50 = 0.04 μM-0.2 μM).

Solubility Information

Solubility	DMSO: 260 mg/mL (1159.63 mM),Sonication is recommended. H2O: 74.29 mg/mL (331.34 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (44.6 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (8.92 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	4.4601 mL	22.3005 mL	44.601 mL
5 mM	0.892 mL	4.4601 mL	8.9202 mL
10 mM	0.446 mL	2.2301 mL	4.4601 mL
50 mM	0.0892 mL	0.446 mL	0.892 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

Caron M, et al. AIDS, 2004, 18(16), 2127-2136.
Merrill DP, et al. J Infect Dis, 1996, 173(2), 355-364.
Velsor LW, et al. Toxicol Appl Pharmacol, 2004, 199(1), 10-19.
Gaou I, et al. J Pharmacol Exp Ther, 2001, 297(2), 516-523.