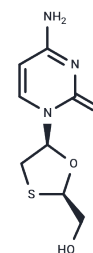


Lamivudine

Chemical Properties

CAS No. :	134678-17-4
Formula:	C ₈ H ₁₁ N ₃ O ₃ S
Molecular Weight:	229.26
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	Lamivudine (BCH-189) is a reverse transcriptase inhibitor and ZALCITABINE analog in which a sulfur atom replaces the 3' carbon of the pentose ring. It is used to treat HIV disease.
Targets(IC50)	HIV Protease,Reverse Transcriptase,HBV
In vivo	Lamivudine exhibits selective inhibitory activity against deoxycytidine kinase, an unusual substrate for the non-natural L-isomer of dNTPs preferred by HBV polymerase. The anti-HBV activity of PCV is attributed to the broad substrate specificity of deoxycytidine kinase and an unusual substrate preference of HBV polymerase for the non-natural L-conformation of dNTPs. The anti-HBV efficacy of PCV appears to rely on multiple factors, including optimal phosphorylation (sufficient for antiviral activity but not cytotoxicity), the extended intracellular half-life of PCV-TP, and the ability of PCV-TP to inhibit the initiation of HBV RT as well as its RT and DNA polymerase activities. Combined use of Lamivudine and Cidofovir synergistically inhibits replication of duck hepatitis B virus and is more effective in reducing the persistent covalently closed circular (CCC) DNA form of DHBV than when used separately. In PBMCs, Lamivudine inhibits HIV-1 p24 antigen production with ED50s ranging from 0.07 μM to 0.2 μM.

Solubility Information

Solubility	DMSO: 240 mg/mL (1046.85 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), H2O: 42 mg/mL (183.2 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (21.81 mM),Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.3619 mL	21.8093 mL	43.6186 mL
5 mM	0.8724 mL	4.3619 mL	8.7237 mL
10 mM	0.4362 mL	2.1809 mL	4.3619 mL
50 mM	0.0872 mL	0.4362 mL	0.8724 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

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