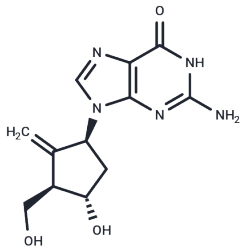
Data Sheet (Cat.No.T0085L)

TargetMol

Entecavir

Chemical Properties



CAS No. : 142217-69-4

Formula: C12H15N5O3

Molecular Weight: 277.28

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	Entecavir (SQ34676) is a guanosine nucleoside analogue used in the treatment of chronic hepatitis B virus (HBV) infection. Entecavir therapy can be associated with flares of the underlying hepatitis B during or after therapy, but has not been linked to cases of clinically apparent liver injury.
Targets(IC50)	HBV
In vitro	BMS-200475 demonstrates potent antiviral activity with an EC50 of 3.75 nM against HBV by integrating into the protein primer of HBV, thereby inhibiting the priming step of the virus's reverse transcriptase. Its efficacy is notably reduced against other RNA and DNA viruses[1]. Entecavir, compared to other deoxyguanosine analogs (penciclovir, ganciclovir, lobucavir, and aciclovir) or lamivudine, undergoes more efficient phosphorylation to its active metabolites. Additionally, entecavir has an intracellular half-life of 15 hours[2].
In vivo	Administering BMS-200475 orally on a daily basis in doses between 0.02 and 0.5 mg/kg of body weight for a duration of one to three months significantly decreases the viremia level of woodchuck hepatitis virus (WHV) in chronically infected woodchucks[3].
Cell Research	BMS 200475 is prepared in phosphate-buffered saline (PBS) and diluted with appropriate medium containing 2% fetal bovine serum. HepG2 2.2.15 cells are plated at a density of 5×105 cells per well on 12-well Biocoat collagen-coated plates and are maintained in a confluent state for 2 to 3 days before being overlaid with 1 mL of medium spiked with BMS 200475. Quantification of HBV was performed on day 10[1].

Solubility Information

Solubility	DMSO: 63.13 mg/mL (227.68 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	5% DMSO+95% Saline: 1 mg/mL (3.61 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	3.6065 mL	18.0323 mL	36.0646 mL
5 mM	0.7213 mL	3.6065 mL	7.2129 mL
10 mM	0.3606 mL	1.8032 mL	3.6065 mL
50 mM	0.0721 mL	0.3606 mL	0.7213 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

Sham, H., Kempf, D., Molla, A., Marsh, K., Kumar, G., & Chen, C. et al. (1998). ABT-378, a Highly Potent Inhibitor of the Human Immunodeficiency Virus Protease. Antimicrobial Agents And Chemotherapy, 42(12), 3218-3224. doi: 10.1128/aac.42.12.3218

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Yang Y, Yan Y, Yin J, et al. Structure-Based Discovery of N-Sulfonylpiperidine-3-carboxamides as Novel Capsid Assembly Modulators for Potent Inhibition of HBV Replication. Viruses. 2022, 14(2): 348.

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