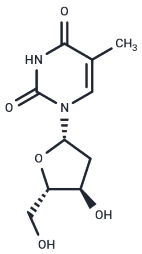
Data Sheet (Cat.No.T1513)

TargetMol

Telbivudine

Chemical Properties



CAS No. : 3424-98-4

Formula: C10H14N2O5

Molecular Weight: 242.23

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	Telbivudine (NV 02B) is a Hepatitis B Virus Nucleoside Analog Reverse Transcriptase Inhibitor. The mechanism of action of telbivudine is as a Nucleoside Reverse Transcriptase Inhibitor. The chemical classification of telbivudine is Nucleoside Analog.
Targets(IC50)	Reverse Transcriptase,HBV
In vivo	Telbivudine significantly increases the levels of tumor necrosis factor-alpha and interleukin-2 in macrophages (induced by MHV-3) as well as serum levels of interferon-gamma. It is phosphorylated by cellular thymidine kinase into an active triphosphate form, with an intracellular half-life of 14 hours. While enhancing the proliferation and secretion capabilities of T-cells, Telbivudine does not affect the cytotoxicity against infected hepatocytes. Furthermore, it inhibits the expression of programmed death ligand 1 in T-cells. Despite mutations such as N236T and A181V/A194T, Telbivudine remains active at increased magnitudes of 0.5 and 1.0 times, respectively. The differences in resistance between lamivudine and Telbivudine are due to Telbivudine's inactivity against the lamivudine-resistant HBV strain L180M/M204V/I mutation, though it remains active against the M204V single mutation.

Solubility Information

Solubility	H2O: 44 mg/mL (181.65 mM),Sonication is recommended. DMSO: 50 mg/mL (206.42 mM),Sonication is recommended. Ethanol: 2 mg/mL (8.26 mM),Heating 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: 2.5 mg/mL (10.32 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	4.1283 mL	20.6415 mL	41.2831 mL
5 mM	0.8257 mL	4.1283 mL	8.2566 mL
10 mM	0.4128 mL	2.0642 mL	4.1283 mL
50 mM	0.0826 mL	0.4128 mL	0.8257 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

Bridges EG, et al. Antimicrob Agents Chemother, 2008, 52(7), 2521-2528.
Wu ZG, et al. J Viral Hepat, 2010, 17 Suppl 1, 24-33.
Seifer M, et al. Antiviral Res, 2009, 81(2), 147-155.