Product Datasheet

Technical Data

Formula	$C_{10}H_{14}N_2O_5$					
Molecular Weight	242.23	**CAS No.**	3424-98-4			
Solubility (25°C)*	In vitro	DMSO	48 mg/mL (198.15 mM)			
		Water	48 mg/mL (198.15 mM)			
		Ethanol	2 mg/mL (8.25 mM)			
	In vivo (Add solvents to the product individually and in order)	Oral Administration	Homogeneous suspension	CMC-NA	≥5mg/ml	Taking the 1 mL working solution as an example, add 5 mg of this product to 1 ml of CMC-Na solution, mix evenly to obtain a homogeneous suspension with a final concentration of 5 mg/ml.

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Concentration \ Volume / Mass	1 mg	5 mg	10 mg
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

Biological Activity

Description	Telbivudine(NV 02B) is a potent, and selective HBV **reverse transcriptase** inhibitor, used to treat HBV infection.
Targets	HBV RT [1]
In vitro	Telbivudine shows potent, selective, and specific antiviral activity against HBV and other hepadna viruses. This compound is phosphorylated by intracellular thymidine kinases to the active triphosphate form, which has an intracellular half-life of 14 hours. Its 5′-triphosphate inhibits HBV DNA polymerase (reverse transcriptase) by competing with the natural substrate, dTTP. [1] This chemical significantly increases the production of tumour necrosis factor-alpha and interleukin-12 in MHV-3-induced macrophages. It significantly elevates serum levels of interferon-gamma. This treatment enhances the ability of T cells to undergo proliferation and secrete cytokines but does not affect cytotoxicity of infected hepatocytes. It suppresses programmed death ligand 1 expression on T cells. [2] The compound remains active as shown by respective fold-changes of 0.5 (N236T) and 1.0 (A181V and A194T). It is not active against HBV strains bearing lamivudine mutations L180M/M204V/I but remains active against the M204V single mutant in vitro, potentially explaining the difference in resistance profiles between telbivudine and lamivudine. [3]

References

https://pubmed.ncbi.nlm.nih.gov/18474576/ https://pubmed.ncbi.nlm.nih.gov/20586931/ https://pubmed.ncbi.nlm.nih.gov/19028525/

RETURN POLICY

Capsid Bio's Unconditional Return Policy ensures a smooth online shopping experience for our customers. If you are in any way unsatisfied with your purchase, you may return any item(s) within 7 days of receiving it. In the event of product quality issues, either protocol related or product related problems, you may return any item(s) within 365 days from the original purchase date. Please follow the instructions below when returning products.

SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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