Tenofovir hydrate

Catalog No.C10518 Batch:C1051803

Product Datasheet

Technical Data

Formula	$C_9H_{16}N_5O_5P$		
Molecular Weight	305.23	**CAS No.**	206184-49-8
Solubility (25°C)*	In vitro	Water	10 mg/mL (32.76 mM)
		DMSO	Insoluble
		Ethanol	Insoluble

* <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

Biological Activity

Description	Tenofovir (GS-1278) hydrate blocks **reverse transcriptase** and **hepatitis B virus** infections.
In vitro	Tenofovir reduces the viral cytopathic effect of HIV-1(IIIB), HIV-2(ROD) and HIV(EHO) with EC50 of 1.15 μg/mL, 1.12 μg/mL and 1.05 μg/mL in MT-4 cells. Tenofovir also reduces the viral cytopathic effect of SIV(mac251) , SIV(B670) ,SHIV(89.6) and SHIV(RTSHIV).[1] Tenofovir is uniquely active against multinucleoside-resistant HIV expressing the Q151M mutation, but shows reduced susceptibility to the T69S insertion mutations.[2] Tenofovir inhibits hepatitis B virus (HBV) activity in HepG2 2.2.15, HepAD38 and HepAD79 cells.[3] Tenofovir (4 μM) completely inhibits the growth of HIVIIIB in MT-2 cells. Tenofovir inhibits synthesis of negative strand strong-stop DNA with IC50 of 9 μM for wild-type RT, 6 μM for M184V RT and 50 μM for K65R RT.[4]
In vivo	Tenofovir (30 mg/kg) completely prevents SIV infection in all macaques without toxicity. Tenofovir treatment reduces plasma viral RNA levels to undetectable, with parallel decreases in the infectivity of plasma and infectious cells in peripheral blood mononuclear cells and cerebrospinal fluid (CSF) and stabilization of CD4+ T-cell numbers. Tenofovir (30 mg/kg, s.c.) completely abrogates HIV infection via intravaginal exposure in pig-tailed macaques.[5]

Protocol (from reference)

Animal Study:[1]

- **Animal Models**
  Macaques
- **Dosages**
  30 mg/kg
- **Administration**
  s.c.

References

https://pubmed.ncbi.nlm.nih.gov/15040537/ https://pubmed.ncbi.nlm.nih.gov/15040537/ https://pubmed.ncbi.nlm.nih.gov/11562951/

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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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