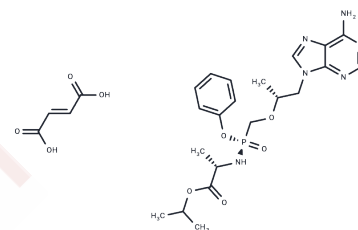


Tenofovir alafenamide fumarate

Chemical Properties

CAS No. :	379270-38-9
Formula:	C ₂₅ H ₃₃ N ₆ O ₉ P
Molecular Weight:	592.54
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	Tenofovir alafenamide fumarate (GS-7340 fumarate) is an orally available precursor of Tenofovir with anti-HIV activity, used to prevent HIV infection.
Targets(IC50)	HIV Protease,Reverse Transcriptase
In vitro	Tenofovir alafenamide fumarate antiviral activity was similar in all cell types, ranging from 5 to 7 nM, whereas CC50 varied from 4.7 to 42 μM for MT-4 and MT-2 cells. The antiviral activity of TAF was evaluated against a panel of HIV-1 and HIV-2 isolates, including HIV-1 M group subtypes A to G, as well as group N and O isolates. Overall, TAF EC50 ranged from 0.1 to 12 nM, with an average EC50 of 3.5 nM, compared to an average EC50 of 11.8 nM for AZT, used as an internal control, for 29 major HIV-1 isolates tested in PBMC. For HIV-2 isolates, the average EC50 is 1.8 nM for TAF and 6.4 nM for AZT.[2]
In vivo	Tenofovir alafenamide fumarate (GS-7340 fumarate), an amidate prodrug of Tenofovir, exhibits enhanced oral bioavailability and plasma stability compared to Tenofovir disoproxil fumarate (TDF) [1].

Solubility Information

Solubility	H ₂ O: 25 mg/mL (42.19 mM),Sonication is recommended. DMSO: 250 mg/mL (421.91 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (16.88 mM),Solution. <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	1.6876 mL	8.4382 mL	16.8765 mL
5 mM	0.3375 mL	1.6876 mL	3.3753 mL
10 mM	0.1688 mL	0.8438 mL	1.6876 mL
50 mM	0.0338 mL	0.1688 mL	0.3375 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

Babuis D, et al. Mechanism for effective lymphoid cell and tissue loading following oral administration of nucleotide prodrug GS-7340. *Mol Pharm.* 2013 Feb 4;10(2):459-66.

Ruane PJ, et al. Antiviral activity, safety, and pharmacokinetics/pharmacodynamics of tenofovir alafenamide as 10-day monotherapy in HIV-1-positive adults. *J Acquir Immune Defic Syndr.* 2013 Aug 1;63(4):449-55.

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