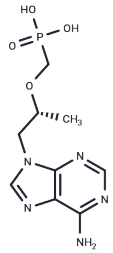
Data Sheet (Cat.No.T1649)

TargetMol

Tenofovir

Chemical Properties



CAS No. : 147127-20-6

Formula: C9H14N5O4P

Molecular Weight: 287.21

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 (GS 1278) is an adenine analog REVERSE TRANSC-RIPTASE INHIBITOR with antiviral activity against HIV-1 and HEPATITIS B. It is used to treat HIV INFECTIONS and CHRONIC HEPATITIS B, in combination with other ANTIVIRAL AGENTS, due to the emergence of ANTIVIRAL DRUG RESISTANCE when it is used alone.
Targets(IC50)	HIV Protease,Reverse Transcriptase,HBV
In vitro	4 μM Tenofovir completely inhibited the growth of HIVIIIB in MT-2 cells.Tenofovir inhibited hepatitis B virus (HBV) activity in HepG2 2.2.15, HepAD38 and HepAD79 cells. Tenofovir reduced the viral cytopathic effects of HIV-1(IIIB), HIV-2(ROD) and HIV(EHO) in MT-4 cells with EC50s of 1.15 μg/mL, 1.12 μg/mL, and 1.05 μg/mL.Tenofovir also reduced the viral cytopathic effects of SIV(mac251), SIV(B670), SHIV(89.6) and SHIV (89.6). Tenofovir also reduced the cytopathic effect of SIV(mac251),SIV(B670),SHIV(89.6) and SHIV(RTSHIV).Tenofovir showed unique activity against polynucleoside-resistant HIV expressing the Q151M mutation, and was less susceptible to viruses with the T69S insertion mutation.
In vivo	4 μM Tenofovir completely inhibited the growth of HIVIIIB in MT-2 cells.Tenofovir inhibited hepatitis B virus (HBV) activity in HepG2 2.2.15, HepAD38 and HepAD79 cells. Tenofovir reduced the viral cytopathic effects of HIV-1(IIIB), HIV-2(ROD) and HIV(EHO) in MT-4 cells with EC50s of 1.15 μg/mL, 1.12 μg/mL, and 1.05 μg/mL.Tenofovir also reduced the viral cytopathic effects of SIV(mac251), SIV(B670), SHIV(89.6) and SHIV (89.6). Tenofovir also reduced the cytopathic effect of SIV(mac251),SIV(B670),SHIV(89.6) and SHIV(RTSHIV).Tenofovir showed unique activity against polynucleoside-resistant HIV expressing the Q151M mutation, and was less susceptible to viruses with the T69S insertion mutation.
Cell Research	Cells are plated into 48-well tissue culture plates (39,000 cells/mL) and allowed to grow for 48 h followed by treatment with vehicle or Tenofovir. Following the treatment period, cell viability is assessed using the MTT assay. The MTT assay relies on the conversion of tetrazolium dye 3-(4,5-dimethlthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) to formazan by NAD(P)H-dependent oxidoreductases[1].

Solubility Information

Solubility	DMSO: 4 mg/mL (13.93 mM),Heating is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), H2O: 2 mg/mL (6.96 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4818 mL	17.4089 mL	34.8177 mL
5 mM	0.6964 mL	3.4818 mL	6.9635 mL
10 mM	0.3482 mL	1.7409 mL	3.4818 mL
50 mM	0.0696 mL	0.3482 mL	0.6964 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

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