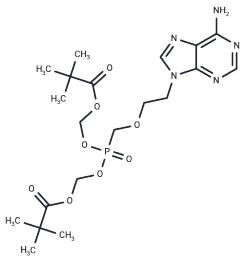
Data Sheet (Cat.No.T1675)

TargetMol

Adefovir dipivoxil

Chemical Properties



CAS No. : 142340-99-6

Formula: C20H32N5O8P

Molecular Weight: 501.47

Storage: Store at low temperature
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	Adefovir dipivoxil (GS 0840) is a dipivoxil formulation of adefovir, a nucleoside reverse transcriptase inhibitor analog of adenosine with activity against hepatitis B virus (HBV), herpes virus, and human immunodeficiency virus (HIV).
Targets(IC50)	ATM/ATR,Reverse Transcriptase,Endogenous Metabolite,CDK,HSV,DNA/RNA Synthesis, HBV,Virus Protease
In vitro	Compared to the placebo control group with 5.3 log10 GE/mL, Adefovir Dipivoxil significantly reduced serum HBV DNA levels in transgenic mice to 3.5 log10 genome equivalents (GE) per mL, indicating a marked suppression of the hepatitis B virus. In the liver, Adefovir Dipivoxil's antiviral activity peaked on day 10, achieving hepatitis B virus inhibition endpoints at a dose of 1.0 mg/kg/day. Furthermore, Adefovir Dipivoxil decreased liver HBV DNA to <0.1 picograms of hepatitis B virus per total DNA (picograms/mg) in each transgenic mouse.
In vivo	In the duck HBV (DHBV) model, Adefovir dipivoxil, when used in combination with other nucleoside analogs (Lamivudine, Entecavir, Emtricitabine [FTC], and Telbivudine [L-dT]), exhibits superior antiviral effects compared to monotherapy. Adefovir dipivoxil effectively inhibits viral CCC DNA both in vitro and in vivo within the same model. Notably, Adefovir retains significant anti-HBV activity soon after being introduced to cells. Its use in conjunction with Lamivudine, FTC, or L-dT demonstrates cumulative effects, while synergy is observed when combined with Entecavir or Tenofovir. Additionally, Adefovir dipivoxil suppresses the activity of the polymerase by inhibiting the transcription of the pre-genomic RNA. The dosage of Adefovir dipivoxil is correlated with its ability to suppress the release of the virus in culture supernatants and the synthesis of viral DNA within cells.

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 250 mg/mL (498.53 mM),Sonication is recommended. Ethanol: 93 mg/mL (185.45 mM),Sonication 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: 3.3 mg/mL (6.58 mM),Sonication is recommended.

In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (19.94 mM),Suspension. *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	1.9941 mL	9.9707 mL	19.9414 mL
5 mM	0.3988 mL	1.9941 mL	3.9883 mL
10 mM	0.1994 mL	0.9971 mL	1.9941 mL
50 mM	0.0399 mL	0.1994 mL	0.3988 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

Julander JG, et al. Antiviral Res, 2002, 55(1), 27-40.
Thieulent C, Hue E, Sutton G, et al. Identification of antiviral compounds against equid herpesvirus-1 using real-time cell assay screening: efficacy of decitabine and valganciclovir alone or in combination. Antiviral Research. 2020: 104931
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Delmas J, et al. Antimicrob Agents Chemother, 2002, 46(2), 425-433.
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