

Certificate of Analysis

Product Name: Tenofovir

Catalog No.: 3666

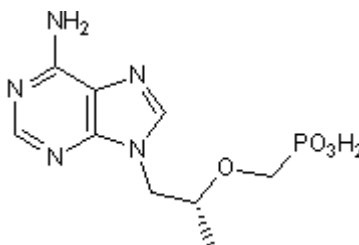
Batch No.: 1

CAS Number: 147127-20-6

IUPAC Name: (R)-[[2-(6-Amino-9H-purin-9-yl)-1-methylethoxy]methyl]phosphonic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₉ H ₁₄ N ₅ O ₄ P·H ₂ O
Batch Molecular Weight:	305.23
Physical Appearance:	White solid
Solubility:	1.1eq. NaOH to 100 mM DMSO to 10 mM
Storage:	Store at -20°C
Batch Molecular Structure:	



2. ANALYTICAL DATA

TLC:	R _f = 0.4 (Pyridine:Acetic acid:Water:Butanol [3:8:11:33])
HPLC:	Shows 99.2% purity
¹H NMR:	Consistent with structure
Mass Spectrum:	Consistent with structure
Optical Rotation:	[α] _D = -19.6 (Concentration = 1, Solvent = 0.1N HCl)
Microanalysis:	

	Carbon	Hydrogen	Nitrogen
Theoretical	35.42	5.28	22.95
Found	35.47	5.15	22.59

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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IUPAC Name: (R)-[[2-(6-Amino-9H-purin-9-yl)-1-methylethoxy]methyl]phosphonic acid

Description:

Selectively inhibits HIV reverse transcriptase (RNA-dependent DNA polymerase). Prevents cytotoxicity in SIV-infected C-8166 cells in vitro (IC₅₀ = 1.5 μM). Antiviral agent.

Physical and Chemical Properties:

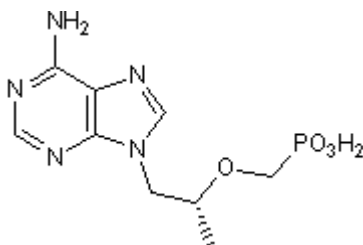
Batch Molecular Formula: C₉H₁₄N₅O₄P.H₂O

Batch Molecular Weight: 305.23

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



References:

Tsai et al (1995) Prevention of SIV infection in macaques by (R)-9-(2-phosphonylmethoxypropyl)adenine. *Science* **270** 1197. PMID: 7502044.

Van Rompay et al (1996) 9-[2-(Phosphonomethoxy)propyl]adenine therapy of established simian immunodeficiency virus infection in infant rhesus macaques. *Antimicrob. Agents Chemother.* **40** 2586. PMID: 8913470.

Suo et al (1998) Selective inhibition of HIV-1 reverse transcriptase by an antiviral inhibitor, (R)-9-(2-phosphonylmethoxypropyl)adenine. *J. Biol. Chem.* **273** 27250. PMID: 9765248.

Storage: Store at -20°C

Solubility & Usage Info:

1.1eq. NaOH to 100 mM
DMSO to 10 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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