Product Data Sheet

Zidovudine

Cat. No.: B2221

CAS No.: 30516-87-1

Formula: C10H13N5O4

M.Wt: 267.24

Synonyms:

Target: DNA Damage/DNA Repair

Pathway: Nucleoside Antimetabolite/Analogue

Storage: Store at -20°C

Solvent & Solubility

In Vitro

⩾17.6 mg/mL in H2O with gentle warming and ultrasonic; ⩾26.5 mg/mL in EtOH with gentle warming; ⩾ 8.35 mg/mL in DMSO

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	3.7420 mL	18.7098 mL	37.4195 mL
5 mM	0.7484 mL	3.7420 mL	7.4839 mL
10 mM	0.3742 mL	1.8710 mL	3.7420 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	Reverse transcriptase inhibitor
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	SP and 63 cells
Preparation method:	The solubility of this compound in DMSO is > 8.4 mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below - 20 °C for several months.

	Reacting conditions:	0 ~ 1 mM; 1 hr
	Applications:	In the pretreated and recently infected SP and 63 cells, Zidovudine exhibited anti-HIV-1 activity, with an ED50 value of 0.001 mM. Moreover, additive effect was observed when Zidovudine was combined with Hydroxychloroquine. Viral replication was reduced to background reverse transcriptase levels. However, Zidovudine did not showed anti-HIV-1 activity towards chronically infected 63HIV and SPH cells.
In Vivo	**Animal experiment**	
	Animal models:	Mice
	Dosage form:	100 mg/kg; p.o.; a single dose
	Applications:	In mice, the plasma concentration of Zidovudine increased rapidly after administration, reaching 41.69 μg/mL at the 0.75th hr, and followed by a decrease to ~4.64 and 0.45 μg/mL at the 4th and 8th hrs, respectively. The AUC level of Zidovudine was 85.23 ± 5.23 mg*h/mL. The Cmax and tmax values for Zidovudine were 41.69 ± 2.61 μg/mL and 0.75 ± 0.00 hr, respetively.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

See more customer validations on www.apexbt.com.

References

[1]. Chiang G, Sassaroli M, Louie M, Chen H, Stecher VJ, Sperber K. Inhibition of HIV-1 replication by hydroxychloroquine: mechanism of action and comparison with zidovudine. Clin Ther. 1996 Nov-Dec;18(6):1080-92.

[2]. Li W, Chang Y, Zhan P, Zhang N, Liu X, Pannecouque C, De Clercq E. Synthesis, in vitro and in vivo release kinetics, and anti-HIV activity of a sustained-release prodrug (mPEG-AZT) of 3'-azido-3'-deoxythymidine (AZT, Zidovudine). ChemMedChem. 2010 Nov 8;5(11):1893-8.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for

long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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