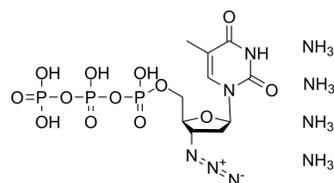


AZT triphosphate tetraammonium

Cat. No.:	HY-116364B
CAS No.:	106060-92-8
Molecular Formula:	C ₁₀ H ₂₈ N ₉ O ₁₃ P ₃
Molecular Weight:	575.3
Target:	HIV; DNA/RNA Synthesis; HBV; Reactive Oxygen Species; Apoptosis
Pathway:	Anti-infection; Cell Cycle/DNA Damage; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Apoptosis
Storage:	-20°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (173.82 mM; ultrasonic and warming and heat to 70°C)																					
	<table border="1"> <thead> <tr> <th rowspan="2">Solvent</th> <th rowspan="2">Mass</th> <th colspan="3">Concentration</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Preparing Stock Solutions</td> <td>1 mM</td> <td>1.7382 mL</td> <td>8.6911 mL</td> <td>17.3822 mL</td> </tr> <tr> <td>5 mM</td> <td>0.3476 mL</td> <td>1.7382 mL</td> <td>3.4764 mL</td> </tr> <tr> <td>10 mM</td> <td>0.1738 mL</td> <td>0.8691 mL</td> <td>1.7382 mL</td> </tr> </tbody> </table>	Solvent	Mass	Concentration			1 mg	5 mg	10 mg	Preparing Stock Solutions	1 mM	1.7382 mL	8.6911 mL	17.3822 mL	5 mM	0.3476 mL	1.7382 mL	3.4764 mL	10 mM	0.1738 mL	0.8691 mL	1.7382 mL
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	Please refer to the solubility information to select the appropriate solvent.																					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 5 mg/mL (8.69 mM); Clear solution																					

BIOLOGICAL ACTIVITY

Description	AZT triphosphate (3'-Azido-3'-deoxythymidine-5'-triphosphate) tetraammonium is an active triphosphate metabolite of Zidovudine (AZT). AZT triphosphate tetraammonium exhibits antiretroviral activity and inhibits replication of HIV. AZT triphosphate tetraammonium also inhibits the DNA polymerase of HBV. AZT triphosphate tetraammonium activates the mitochondria-mediated apoptosis pathway ^{[1][2][3]} .
In Vitro	AZT triphosphate (3'-Azido-3'-deoxythymidine-5'-triphosphate) tetraammonium accumulation disrupts the mitochondrial tubular network in H9c2 cells through Treatment with 100 μM Zidovudine (AZT) for 48h. AZT triphosphate tetraammonium accumulation causes downregulation of Opa1 and upregulation of Drp1. AZT triphosphate tetraammonium causes mitochondrial dysfunction, increases the production of cytotoxic reactive oxygen species (ROS), and impairs the balance of the mitochondrial quality control system in H9c2 cell model established from rat embryonic myoblasts ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Ryosuke Nomura, et al. Azidothymidine-triphosphate Impairs Mitochondrial Dynamics by Disrupting the Quality Control System. *Redox Biol.* 2017 Oct;13:407-417.
- [2]. Takeya Sato, et al. Engineered Human tmpk/AZT as a Novel Enzyme/Prodrug Axis for Suicide Gene Therapy. *Mol Ther.* 2007 May;15(5):962-70.
- [3]. K Y Hostetler, et al. Enhanced Oral Absorption and Antiviral Activity of 1-O-octadecyl-sn-glycero-3-phospho-acyclovir and Related Compounds in Hepatitis B Virus Infection, *in Vitro. Biochem Pharmacol.* 1997 Jun 15;53(12):1815-22.
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Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA