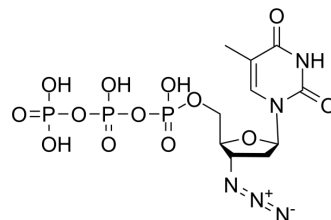


AZT triphosphate

Cat. No.:	HY-116364
CAS No.:	92586-35-1
Molecular Formula:	C ₁₀ H ₁₆ N ₅ O ₁₃ P ₃
Molecular Weight:	507.18
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:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	AZT triphosphate (3'-Azido-3'-deoxythymidine-5'-triphosphate) is a active triphosphate metabolite of Zidovudine (AZT). AZT triphosphate exhibits antiretroviral activity and inhibits replication of HIV. AZT triphosphate also inhibits the DNA polymerase of HBV. AZT triphosphate activates the mitochondria-mediated apoptosis pathway ^{[1][2][3]} .
In Vitro	AZT triphosphate (3'-Azido-3'-deoxythymidine-5'-triphosphate) accumulation disrupts the mitochondrial tubular network in H9c2 cells through Treatment with 100 μM Zidovudine (AZT) for 48h. AZT triphosphate accumulation causes downregulation of Opa1 and upregulation of Drp1. AZT triphosphate 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.

Caution: Product has not been fully validated for medical applications. For research use only.

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