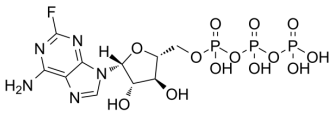
Fludarabine triphosphate

Cat. No.:	HY-136650
CAS No.:	74832-57-8
Molecular Formula:	$C_{10}H_{15}FN_5O_{13}P_3$
Molecular Weight:	525.17
Target:	Nucleoside Antimetabolite/Analog; Drug Metabolite; DNA/RNA Synthesis; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Fludarabine triphosphate (F-ara-ATP), the active metabolite of Fludarabine (HY-B0069), is a potent, noncompetitive and specific inhibitor of DNA primase, with an IC_{50} of 2.3 μM and a K_i of 6.1 μM. Fludarabine triphosphate inhibits DNA synthesis by blocking DNA primase and primer RNA formation. Fludarabine triphosphate inhibits ribonucleotide reductase and DNA polymerase and ultimately leads to cellular apoptosis[1][2].
IC_{50} & Target	IC50: 2.3 ± 0.3 μM (DNA primase); Ki: 6.1 ± 0.3 μM (DNA primase)[1]
In Vitro	Fludarabine triphosphate is a more potent inhibitor of the polydeoxythymidylate primase activity than of the DNA polymerase α/δ activities present in the supernatants of CCRF-CEM cells[1]. Fludarabine triphosphate (10-50 μM) inhibits the incorporation of ATP into primer RNA and dTTP into DNA to a similar extent [1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Catapano CV, et al. Inhibition of primer RNA formation in CCRF-CEM leukemia cells by fludarabine triphosphate. Cancer Res. 1991 Apr 1;51(7):1829-35.

[2]. Erica L. Woodahl, et al. A NOVEL PHENOTYPIC METHOD TO DETERMINE FLUDARABINE TRIPHOSPHATE ACCUMULATION IN T-LYMPHOCYTES FROM HEMATOPOIETIC CELL TRANSPLANTATION PATIENTS. J Cell Mol Med. 2020 Jul 31.

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