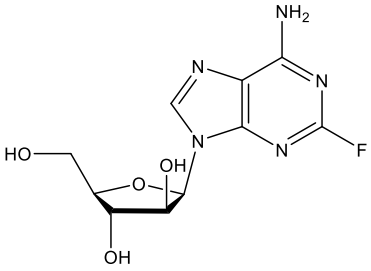
Catalog # 10-5047

Fludarabine

CAS# 21679-14-1

9-β-D-Arabinofuranosyl-2-fluoro-9H-purin-6-amine; F-ara-A; NSC118218

Lot # X109662



Fludarabine is a synthetic adenosine analog that inhibits DNA biosynthesis and is a clinically useful antineoplastic agent.[1] In cells fludarabine accumulates as its 5'-triphosphate (F-ara-ATP) for which the rate-limiting step in formation is the conversion of fludarabine to its monophosphate.[2] F-ara-ATP has multiple mechanisms of action including inhibition of ribonucleotide reductase, DNA polymerase, ligase and primase.[2] A frequently used agent in myeloablative conditioning regimens for allogeneic hematopoietic cell transplantation.[3] Immunosuppressive effects are mediated via inhibition of TNFα-stimulated production of IL-2 and IFN-γ through inactivation of NFκB.[4] Antagonist at adenosine A1 receptors.[5]

1) Ross *et al*. (1993), *Fludarabine. A review of its pharmacological properties and therapeutic potential in malignancy*; Drugs, **45** 737
2) Gandhi and Plunkett (2002), *Cellular and clinical pharmacology of fludarabine*; Pharmacokinet., **41** 93
3) Langenhorst *et al*. (2019), *Fludarabine exposure in the conditioning prior to allogeneic hematopoietic cell transplantation predicts outcomes*; Blood Adv., **3** 2179
4) Nishioka *et al.* (2008), *Fludarabine induces growth arrest and apoptosis of cytokine- or alloantigen-stimulated peripheral blood mononuclear cells and decreases production of Th1 cytokines via inhibition of nuclear factor kappaB*; Bone Marrow Transplant., **41** 303
5) Jensen *et al*. (2012), *Cytotoxic purine nucleoside analogues bind to A1, A2A and A3 adenosine receptors*; Naunyn Schmiedebergs Arch. Pharmacol., **385** 519

PHYSICAL DATA

Molecular Weight:	285.23
Molecular Formula:	$C_{10}H_{12}FN_5O_4$
Purity:	98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (up to 30 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

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