

Certificate of Analysis

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Product Name: Clofarabine

Catalog No.: 2600

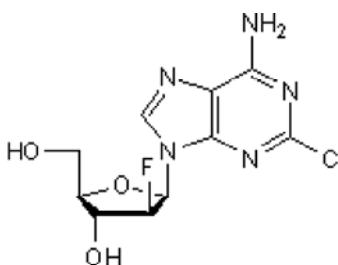
Batch No.: 2

CAS Number: 123318-82-1

IUPAC Name: 2-Chloro-9-(2-deoxy-2-fluoro-β-D-arabinofuranosyl)-9H-purin-6-amine

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₀H₁₁ClFN₅O₃
Batch Molecular Weight: 303.68
Physical Appearance: White solid
Solubility: DMSO to 100 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	39.55	3.65	23.06
Found	39.55	3.7	23.07

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Deoxycytidine kinase (dCK) substrate. Phosphorylated to form clofarabine triphosphate, which competes with dATP for DNA polymerase-α and -ε and potently inhibits ribonucleotide reductase (IC₅₀ = 65 nM). Induces apoptosis by directly altering mitochondrial transmembrane potential. Demonstrates growth inhibition and cytotoxic activity in a variety of leukemias and solid tumors.

Physical and Chemical Properties:

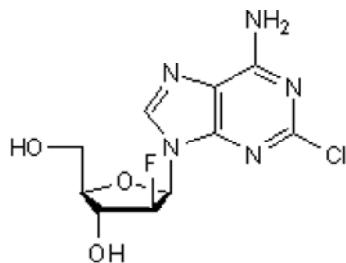
Batch Molecular Formula: C₁₀H₁₁ClFN₅O₃

Batch Molecular Weight: 303.68

Physical Appearance: White solid

Minimum Purity: ≥99%

Batch Molecular Structure:



References:

Bonate et al (2006) Discovery and development of clofarabine: a nucleoside analogue for treating cancer. *Nat.Rev.Drug Discov.* **5** 855. PMID: 17016426.

Carson et al (1992) Oral antilymphocyte activity and induction of apoptosis by 2-chloro-2'-arabino-fluoro-2'-deoxyadenosine. *Proc.Natl.Acad.Sci.USA* **89** 2970.

Parker et al (1991) Effects of 2-chloro-9-(2-deoxy-2-fluoro-β-D-arabinofuranosyl) adenine on K562 cellular metabolism and the inhibition of human ribonucleotide reductase and DNA polymerases by its 5'-triphosphate. *Cancer Res.* **51** 2386. PMID: 1707752.

Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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