

## Clofarabine

## Chemical Properties

CAS No. :	123318-82-1
Formula:	C <sub>10</sub> H <sub>11</sub> ClFN <sub>5</sub> O <sub>3</sub>
Molecular Weight:	303.677
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

## Biological Description

Description	Clofarabine (Clofarex)m, a second generation purine nucleoside analog with antineoplastic activity, inhibits the enzymatic activities of ribonucleotide reductase (IC <sub>50</sub> = 65 nM) and DNA polymerase.
Targets(IC <sub>50</sub> )	Apoptosis,Nucleoside Antimetabolite/Analog,Autophagy,DNA/RNA Synthesis
In vitro	In athymic nude mice or severe combined immunodeficient (SCID) mice, Clofarabine demonstrates inhibitory effects on various subcutaneously transplanted human tumor xenografts.
In vivo	In lymphocytes from chronic lymphocytic leukemia, 10 μM Clofarabine inhibits the repair induced by 4-hydroperoxycyclophosphamide with a peak inhibition at an intracellular concentration of 5 μM. Across a range of leukemia and solid tumor cell lines, Clofarabine demonstrates potent growth inhibition and cytotoxicity (IC <sub>50</sub> = 0.028-0.29 μM).

## Solubility Information

Solubility	DMSO: 245.00 mg/mL (806.78 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2.00 mg/mL (6.59 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	3.2929 mL	16.4647 mL	32.9294 mL
5 mM	0.6586 mL	3.2929 mL	6.5859 mL
10 mM	0.3293 mL	1.6465 mL	3.2929 mL
50 mM	0.0659 mL	0.3293 mL	0.6586 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Bonate PL, et al. Nat Rev Drug Discov, 2006, 5(10), 855-863.

Berthier A, Gheeraert C, Johanns M, et al. The Molecular Circadian Clock Is a Target of Anti-cancer Translation Inhibitors. Journal of Biological Rhythms. 2023: 07487304231202561.

Yamauchi T, et al. Clin Cancer Res, 2001, 7(11), 3580-3589.

Cooper T, et al. Cancer Chemother Pharmacol, 2005, 55(4), 361-368.

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