**Clofarabine**

**Cat. No.:** HY-A0005  
**CAS No.:** 123318-82-1  
**Molecular Formula:** C₁₀H₁₁ClF₅N₅O₃  
**Molecular Weight:** 303.68  
**Target:** Nucleoside Antimetabolite/Analog; Autophagy; Apoptosis  
**Pathway:** Cell Cycle/DNA Damage; Autophagy; Apoptosis  
**Storage:** Powder  
-20°C 3 years  
4°C 2 years  
**In solvent:**  
-80°C 6 months  
-20°C 1 month

### SOLVENT & SOLUBILITY

**In Vitro**  
DMSO : ≥ 50 mg/mL (164.65 mM)  

*”≥” means soluble, but saturation unknown.*

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>Mass 1 mg</th>
<th>Mass 5 mg</th>
<th>Mass 10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>3.2929 mL</td>
<td>16.4647 mL</td>
<td>32.9294 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.6586 mL</td>
<td>3.2929 mL</td>
<td>6.5859 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.3293 mL</td>
<td>1.6465 mL</td>
<td>3.2929 mL</td>
</tr>
</tbody>
</table>

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 3 mg/mL (9.88 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 3 mg/mL (9.88 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 3 mg/mL (9.88 mM); Clear solution

### BIOLOGICAL ACTIVITY

**Description**  
Clofarabine (Clolar; Clofarex) inhibits the enzymatic activities of ribonucleotide reductase (IC50 = 65 nM) and DNA polymerase. IC50 Value: 65 nM  
Target: in vitro: Clofarabine is a second generation purine nucleoside analog with antineoplastic activity. It is phosphorylated intracellularly, which inhibits the enzymatic activities of ribonucleotide reductase (IC50 = 65 nM) and DNA polymerase, resulting in inhibition of DNA repair and synthesis of DNA and RNA. This nucleoside analog also disrupts mitochondrial function and membrane integrity, resulting in the release of pre-
apoptotic factors, including cytochrome C and apoptotic-inducing factor, which activate apoptosis. In vivo: Clofarabine is used for treating relapsed or refractory acute lymphoblastic leukaemia (ALL) in children, after at least two other types of treatment have failed.

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**REFERENCES**


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

Tel: 609-228-6898  Fax: 609-228-5909  E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA