Product Data Sheet

Chemical Properties

<table>
<thead>
<tr>
<th>Product Name:</th>
<th>Fludarabine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cas No.:</td>
<td>21679-14-1</td>
</tr>
<tr>
<td>M.Wt:</td>
<td>285.23</td>
</tr>
<tr>
<td>Formula:</td>
<td>C10H12FN5O4</td>
</tr>
</tbody>
</table>

Chemical Name:  
(2R,3S,4S,5R)-2-(6-amino-2-fluoropurin-9-yl)-5-(hydroxymethyl)oxolane-3,4-diol

Canonical SMILES:  
C1=NC2=C(N1C3C(C(O3)CO)O)O)N=C(N=C2N)F

Solubility: Soluble in DMSO > 10 mM

Storage: Store at -20°C

General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shopping Condition:  
Evaluation sample solution: ship with blue ice  
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: DNA Synthesis

Pathways: DNA Damage/DNA Repair >> DNA Synthesis

Description:
Fludarabine is a purine analog that inhibits DNA synthesis [1]. DNA synthesis is a natural creation of deoxyribonucleic acid (DNA) molecules and plays an important role in cell growth. Fludarabine is a prodrug and is phosphorylated to the nucleoside triphosphate (F-ara-ATP) in cells to elicit biological activity. It affected a series of enzymes that required in DNA synthesis such as...
DNA primase, DNA polymerases, DNA ligase I, ribonucleotide reductase and 3’-5’ exonuclease activity of DNA polymerases δ and ε [1]. In human myeloma cell RPMI8226, fludarabine significantly inhibited cells growth and reduced phosphorylation of Akt. Also, it reduced XIAP and survivin, the inhibitors of apoptosis proteins (IAP) family [2]. Fludarabine can act as a cytosolic 50-nucleotidase II (cN-II) inhibitor [3].

In immunodeficient mice bearing RPMI8226 myeloma xenografts, fludarabine (40 mg/kg) slowed down the growth of tumors by about 5-fold in 25 d comparing with the control tumors [2].

Reference:

Product Validation

Fludarabine inhibits vascular smooth muscle cell proliferation

Fludarabine inhibits the phosphorylation of STAT1

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.