Thymidine

Cat. No.: HY-N1150
CAS No.: 50-89-5
Molecular Formula: C₁₀H₁₄N₂O₅
Molecular Weight: 242.23
Target: DNA/RNA Synthesis; Endogenous Metabolite
Pathway: Cell Cycle/DNA Damage; Metabolic Enzyme/Protease
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 (206.42 mM; Need ultrasonic)
H₂O : 33.33 mg/mL (137.60 mM; Need ultrasonic)

Preparing Stock Solutions

<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>4.1283 mL</td>
<td>20.6415 mL</td>
<td>41.2831 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.8257 mL</td>
<td>4.1283 mL</td>
<td>8.2566 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.4128 mL</td>
<td>2.0642 mL</td>
<td>4.1283 mL</td>
</tr>
</tbody>
</table>

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

BIOLOGICAL ACTIVITY

Description
Thymidine, a specific precursor of deoxyribonucleic acid, is used as a cell synchronizing agent. Thymidine is a DNA synthesis inhibitor that can arrest cell at G1/S boundary, prior to DNA replication[1][2][3].

IC₅₀ & Target
DNA Synthesis          Human Endogenous Metabolite

In Vivo
Thymidine (500 mg/kg; i.p.; twice a day) completely reverses both Methotrexate- and Tomudex-induced deletion of both CD4⁺Vβ8⁺ and CD8⁺Vβ8⁺ T cells [3].

Animal Model: 8-12 weeks BALB/c mice[3]
Dosage: 500 mg/kg
Administration: i.p.; twice a day
Result: Completely abrogates Methotrexate- and Tomudex-induced deletion of Vβ8+ T cells after SEB injection.

CUSTOMER VALIDATION


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REFERENCES

