Folinic acid calcium

Cat. No.: HY-13664
CAS No.: 1492-18-8
Molecular Formula: C$_{20}$H$_{21}$CaN$_7$O$_7$
Molecular Weight: 511.5
Target: Antifolate; Endogenous Metabolite
Pathway: Cell Cycle/DNA Damage; Metabolic Enzyme/Protease
Storage: 4°C, protect from light

* The compound is unstable in solutions, freshly prepared is recommended.

**SOLVENT & SOLUBILITY**

<table>
<thead>
<tr>
<th>In Vitro</th>
<th>H$_2$O : ≥ 200 mg/mL (391.01 mM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“≥” means soluble, but saturation unknown.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Mass Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>1.955 mL</td>
<td>9.775 mL</td>
<td>19.550 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.391 mL</td>
<td>1.955 mL</td>
<td>3.910 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.195 mL</td>
<td>0.977 mL</td>
<td>1.955 mL</td>
</tr>
</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

**Description**
Folinic acid calcium (Leucovorin calcium) is a biological folic acid and is generally administered along with methotrexate (MTX) as a rescue agent to decrease MTX-induced toxicity[1].

**IC$_{50}$ & Target**
Human Endogenous Metabolite

**In Vitro**
MTX alone induces a concentration-related increase in % micronucleated binucleated cells (MNBN) and % aberrant cells (Abs). There is a decrease in nuclear division index (NDI) with increase in MTX concentration. Similarly, the mitotic index (MI) also decreases in all concentrations of MTX tested. The addition of Folinic acid at 50 μg/mL significantly reduces % MNBN (40-68%) and % Abs (36-77%). Inhibition is also seen at 5 μg/mL Folinic acid (12 to 54% for MNBN and 20 to 61% for Abs) [1].

**In Vivo**
Folinic acid (7.0 mg/kg; intraperitoneal injection; every second day; for 3 weeks; Balb/c young growing male mice) treatment following methotrexate (MTX) administration appears to reverse this growth inhibition (Chronic administration of MTX induces suppression of skeletal growth in mice)[2].
Animal Model: 24 Balb/c young growing male mice aged 3 weeks (11.88 ± 0.25 g)\(^2\)

Dosage: 7.0 mg/kg

Administration: Intraperitoneal injection; every second day; for 3 weeks

Result: Following methotrexate (MTX) administration appears to reverse this growth inhibition.

REFERENCES


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