Folinic acid calcium

Cat. No.: HY-13664
CAS No.: 1492-18-8
Molecular Formula: C₂₀H₂₁CaN₇O₇
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

In Vitro

H₂O: ≥ 200 mg/mL (391.01 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>1.9550 mL</td>
<td>9.7752 mL</td>
<td>19.5503 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.3910 mL</td>
<td>1.9550 mL</td>
<td>3.9101 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1955 mL</td>
<td>0.9775 mL</td>
<td>1.9550 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]

IC₅₀ & 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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
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