sn-Glycero-3-phosphocholine

Cat. No.: HY-17552
CAS No.: 28319-77-9
Molecular Formula: C₈H₂₀NO₆P
Molecular Weight: 257.22
Target: AChE; Endogenous Metabolite
Pathway: Neuronal Signaling; Metabolic Enzyme/Protease
Storage: 4°C, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)

**SOLVENT & SOLUBILITY**

**In Vitro**

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₂O</td>
<td>500 mg/mL</td>
<td>3.8877 mL</td>
<td>19.4386 mL</td>
<td>38.8772 mL</td>
</tr>
<tr>
<td>DMSO</td>
<td>≥ 125 mg/mL</td>
<td>0.7775 mL</td>
<td>3.8877 mL</td>
<td>7.7754 mL</td>
</tr>
</tbody>
</table>

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (8.09 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (8.09 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (8.09 mM); Clear solution

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (8.09 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (8.09 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (8.09 mM); Clear solution

**BIOLOGICAL ACTIVITY**

Description
sn-Glycero-3-phosphocholine (Choline Alfoscerate) is a precursor in the biosynthesis of brain phospholipids and increases the bioavailability of choline in nervous tissue. sn-Glycero-3-phosphocholine (Choline Alfoscerate) has significant effects on cognitive function with a good safety profile and tolerability, and is effective in the treatment of Alzheimer’s disease and dementia.[1][2]

IC₅₀ & Target
Human Endogenous Metabolite
In Vivo

Treatment with sn-Glycero-3-phosphocholine (Choline Alfoscerate) (250 mg/kg; i.m.; daily for 3 weeks) after seizure can improve seizure-induced cognitive impairment[2].

sn-Glycero-3-phosphocholine (Choline Alfoscerate) increases the release of acetylcholine in rat hippocampus, facilitates learning and memory in experimental animals, improves brain transduction mechanisms and decreases age-dependent structural changes occurring in rat brain areas involved in learning and memory[3].

<table>
<thead>
<tr>
<th>Animal Model:</th>
<th>Sprague-Dawley male rats[2]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage:</td>
<td>250 mg/kg</td>
</tr>
<tr>
<td>Administration:</td>
<td>Intramuscular injection; starting at 3 weeks after seizure and continuing daily for 3 weeks</td>
</tr>
<tr>
<td>Result:</td>
<td>Improve seizure-induced cognitive impairment.</td>
</tr>
</tbody>
</table>

REFERENCES

