Zofenopril

Cat. No.: HY-108321
CAS No.: 81872-10-8
Molecular Formula: C₂₂H₂₃NO₄S₂
Molecular Weight: 429.55
Target: Angiotensin-converting Enzyme (ACE)
Pathway: 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

<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></td>
<td>Concentration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DMSO</td>
<td>1 mM</td>
<td>2.3280 mL</td>
<td>11.6401 mL</td>
<td>23.2802 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.4656 mL</td>
<td>2.3280 mL</td>
<td>4.6560 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.2328 mL</td>
<td>1.1640 mL</td>
<td>2.3280 mL</td>
</tr>
</tbody>
</table>

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

BIOLOGICAL ACTIVITY

Description
Zofenopril is an angiotensin-converting enzyme (ACE) inhibitor with an IC₅₀ of 81 μM.

IC₅₀ & Target
IC₅₀: 81 μM (ACE)[¹]

In Vitro
Kinetic analyses demonstrate that enalapril inhibits the uptake of GlySar in a competitive manner (Kᵢ approximately 6 mM). Fosinopril and Zofenopril have the greatest inhibitory potency (IC₅₀ values of 55 and 81 μM, respectively) while the other ACE inhibitors exhibit low-affinity interactions with the renal peptide transporter[¹].

In Vivo
Zofenopril, a sulphhydryl compound, at doses higher than 70 mg/kg i.p. produces significant protection (i.e. at 70 mg/kg, P=0.044, F=2.17, d.f.=18; at higher concentration P < 0.05) against the tonic phase of the audiogenic seizure response. Pretreatment with Zofenopril (15 mg/kg, i.p.) is able to produce a consistent shift to the left of the dose-response curves and a significant reduction of ED₅₀ values against clonus of some AEDs with the exceptions of diazepam, felbamate, phenobarbital and phenytoin compare with concurrent groups, suggesting an increase in anticonvulsant activity[²].
Studies are performed in rabbit renal brush border membrane vesicles in which the uptake of radiolabeled GlySar is examined in the absence and presence of captopril, enalapril, enalaprilat, fosinopril, lisinopril, quinapril, quinaprilat, ramipril and Zofenopril.

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

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Male and female mice weighing 8 to 12 g (22 to 26 days old) or 20 to 28 g (48 to 56 days old) are used. Mice are exposed to auditory stimulation, 45, 60 or 120 min following intraperitoneal (i.p.) administration of ACE inhibitors (including Zofenopril) (10 to 100 mg/kg) or vehicle and 45 min following i.p. injection of the AEDs studied. All ACE inhibitors are suspended in a 1% solution of Tween 80 before administration.

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**REFERENCES**
