Azelastine hydrochloride

Cat. No.: HY-B0462
CAS No.: 79307-93-0
Molecular Formula: C₂₂H₂₅Cl₂N₃O
Molecular Weight: 418.36
Target: Histamine Receptor; SARS-CoV
Pathway: GPCR/G Protein; Immunology/Inflammation; Neuronal Signaling; Anti-infection
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 (119.51 mM; Need ultrasonic)
H₂O : 6.67 mg/mL (15.94 mM; Need ultrasonic)

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>2.3903 mL</td>
<td>11.9514 mL</td>
<td>23.9029 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4781 mL</td>
<td>2.3903 mL</td>
<td>4.7806 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2390 mL</td>
<td>1.1951 mL</td>
<td>2.3903 mL</td>
</tr>
</tbody>
</table>

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

In Vivo
1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.98 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.98 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Azelastine hydrochloride, an antihistamine, is a potent and selective histamine 1 (H₁) antagonist. Azelastine hydrochloride can be used for the research of allergic rhinitis, asthma, diabetic hyperlipidemic and SARS-CoV-2[1][2][3][4].

IC₅₀ & Target
H₁ Receptor

In Vitro
Azelastine hydrochloride can significantly inhibit HNEpC proliferation, and therefore, be helpful in against airway remodeling[5].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Cell Proliferation Assay[5]
Cell Line: Human nasal epithelial cells (HNEpC)
Concentration: 100 μM, 400 μM
Incubation Time: 21 days
Result: Inhibited HNEpC growth.

Western Blot Analysis[5]
Cell Line: Human nasal epithelial cells (HNEpC)
Concentration: 100 μM
Incubation Time: 7 days
Result: Significantly up-regulated the H1R, M1R and M3R levels.

In Vivo
Azelastine hydrochloride (4 mg/kg; p.o.; daily; for 8 weeks) significantly reduces blood glucose, HbA1c and serum alkaline phosphatase (ALP), osteocalcin and downregulates apolipoprotein B in diabetic hyperlipidemic rats model[2]. Azelastine hydrochloride (4 mg/kg; p.o.; daily; for 8 weeks) improves the lipid profile (LDL-c decrease and HDL-c increase) in diabetic hyperlipidemic rats model[2]. Azelastine hydrochloride (4 mg/kg; p.o.; daily; for 8 weeks) attenuates calcium deposition and aortic calcification in diabetic hyperlipidemic rats model[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model: Male albino Wistar rats (150-170 g), diabetic hyperlipidemic rats model[2]
Dosage: 4 mg/kg
Administration: Oral administration, daily, for 8 weeks
Result: Ameliorated aortic calcification and increased apolipoprotein A expression along with a decline in apolipoprotein B.

REFERENCES
Caution: Product has not been fully validated for medical applications. For research use only.

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