Ferrostatin-1

Cat. No.: HY-100579
CAS No.: 347174-05-4
Molecular Formula: C_{15}H_{22}N_{2}O_{2}
Molecular Weight: 262.35
Target: Ferroptosis; Fungal
Pathway: Apoptosis; Anti-infection
Storage: 4°C, protect from light
* In solvent: -80°C, 6 months; -20°C, 1 month (protect from light)

SOLVENT & SOLUBILITY

In Vitro

DMSO: 125 mg/mL (476.46 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent 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>3.8117 mL</td>
<td>19.0585 mL</td>
<td>38.1170 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.7623 mL</td>
<td>3.8117 mL</td>
<td>7.6234 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.3812 mL</td>
<td>1.9059 mL</td>
<td>3.8117 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: ≥ 2.08 mg/mL (7.93 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.93 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.93 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Ferrostatin-1 (Fer-1), a potent and selective ferroptosis inhibitor, suppresses Erastin-induced ferroptosis in HT-1080 cells (EC_{50}=60 nM). Ferrostatin-1, a synthetic antioxidant, acts via a reductive mechanism to prevent damage to membrane lipids and thereby inhibits cell death. Antifungal Activity^{[1][2][3].}

IC_{50} & Target
EC50: 60 nM (Ferroptosis)^{[1]}

In Vitro
Ferrostatin-1 (Fer-1) prevents erastin-induced accumulation of cytosolic and lipid ROS. Ferrostatin-1 prevents glutamate-induced neurotoxicity in organotypic rat brain slices^{[1]}. Fer-1 inhibits lipid peroxidation, but not mitochondrial reactive oxygen species formation or lysosomal membrane...
In Vivo

Ferrostatin-1 inhibits cell death in cellular models of Huntington’s disease (HD), periventricular leukomalacia (PVL), and kidney dysfunction[2].

Ferrostatin-1 (0.8 mg/kg; tail vein injection) effectively alleviates LPS-induced induced acute lung injury (ALI)[4].

Ferrostatin-1 (i.p.; 5 mg/kg; C57BL/6J mice) improves renal function in mice with rhabdomyolysis[5].

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

**Animal Model:** Male C57BL/6 mice (LPS-induced ALI)[4]

**Dosage:** 0.8 mg/kg

**Administration:** Tail vein injection

**Result:** Exerted therapeutic action against LPS-induced ALI.

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**REFERENCES**


