Dihydroisotanshinone I

Cat. No.: HY-B1919  
CAS No.: 20958-18-3  
Molecular Formula: C₁₈H₁₄O₃  
Molecular Weight: 278.3  
Target: STAT  
Pathway: JAK/STAT Signaling; Stem Cell/Wnt  
Storage:  
- Powder: -20°C for 3 years, 4°C for 2 years  
- In solvent: -80°C for 6 months, -20°C for 1 month

SOLVENT & SOLUBILITY

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>1 mM</td>
<td>3.5932 mL</td>
<td>17.9662 mL</td>
<td>35.9324 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.7186 mL</td>
<td>3.5932 mL</td>
<td>7.1865 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.3593 mL</td>
<td>1.7966 mL</td>
<td>3.5932 mL</td>
</tr>
</tbody>
</table>

In Vitro DMSO: 6 mg/mL (21.56 mM; Need ultrasonic)

Preparing Stock Solutions

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

BIOLOGICAL ACTIVITY

Description: Dihydroisotanshinone I is a bioactive compound present in a widely used traditional Chinese medicine named danshen.

IC₅₀ & Target: STAT3

In Vitro: Dihydroisotanshinone I can inhibit the migration of both androgen-dependent and androgen-independent prostate cancer cells. Dihydroisotanshinone I diminishes the ability of prostate cancer cells to recruit macrophages and reduces the secretion of chemokine (C-C motif) ligand 2 (CCL2) from both macrophages and prostate cancer cells in a dose-dependent manner. It inhibits the protein expression of p-STAT3 and decreases the translocation of STAT3 into nuclear chromatin. It also suppresses the expression of tumor epithelial-mesenchymal transition genes, including RhoA and SNAI1. Pretreating the cells with dihydroisotanshinone I at concentrations ranging from 2.5 μM to 20 μM for 24 hours cause dose-dependent protection against hepatotoxicity induced by menadione. Adding dihydroisotanshinone I to freshly isolated hepatocytes at concentrations between 50 nM to 200 nM inhibit NADH-induced superoxide production dose-dependently.
Dihydroisotanshinone I is dissolved in ethyl acetate and mixed with the culture medium. The final concentration of ethyl acetate is 0.1% (v/v). Cell are treated with 2.5, 5, 10, and 20 μM dihydroisotanshinone I for 24 hours. The cell viability is measured using the MTT assay\(^2\).

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

REFERENCES
