Methyl protodioscin

Cat. No.: HY-N0863
CAS No.: 54522-52-0
Molecular Formula: C₅₂H₈₆O₂₂
Molecular Weight: 1063.23
Target: Apoptosis
Pathway: Apoptosis
Storage: 4°C, protect from light
* In solvent: -80°C, 6 months; -20°C, 1 month (protect from light)

**SOLVENT & SOLUBILITY**

In Vitro

DMSO: 100 mg/mL (94.05 mM; Need ultrasonic)
H₂O: 25 mg/mL (23.51 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>Mass 1 mg</th>
<th>Mass 5 mg</th>
<th>Mass 10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>0.9405 mL</td>
<td>4.7027 mL</td>
<td>9.4053 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.1881 mL</td>
<td>0.9405 mL</td>
<td>1.8811 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.0941 mL</td>
<td>0.4703 mL</td>
<td>0.9405 mL</td>
</tr>
</tbody>
</table>

Preparing Stock Solutions

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: ≥ 3.5 mg/mL (3.29 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 3.5 mg/mL (3.29 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3.5 mg/mL (3.29 mM); Clear solution

**BIOLOGICAL ACTIVITY**

Description

Methyl protodioscin (NSC-698790) is a furostanol bisglycoside with antitumor properties; shows to reduce proliferation, cause cell cycle arrest. IC₅₀ value: Target in vitro: MPD showed growth inhibitory effects in A549 cells in a dose- and time-dependent manner. The significant G2/M cell cycle arrest and apoptotic effect were also seen in A549 cells treated with MPD. MPD-induced apoptosis was accompanied by a significant reduction of mitochondrial membrane potential, release of mitochondrial cytochrome c to cytosol, activation of caspase-3, downregulation of Bcl-2, p-Bad, and upregulation of Bax [1]. In THP-1 macrophages, MPD increases levels of ABCA1 mRNA and protein in dose- and time-dependent manners, and apoA-1-mediated cholesterol efflux. MPD also decreases the gene expressions of HMGCR, FAS and ACC for cholesterol and fatty acid synthesis [2].
REFERENCES


[2]. Ma W, et al. Methyl protodioscin increases ABCA1 expression and cholesterol efflux while inhibiting gene expressions for synthesis of cholesterol and triglycerides by suppressing SREBP transcription and microRNA 33a/b levels. Atherosclerosis. 2015 Apr;239