Chebulinic acid

Cat. No.: HY-N2033
CAS No.: 18942-26-2
Molecular Formula: C₄₁H₃₂O₂₇
Molecular Weight: 956.68
Target: DNA/RNA Synthesis; TGF-beta/Smad; Proton Pump
Pathway: Cell Cycle/DNA Damage; Stem Cell/Wnt; TGF-beta/Smad Membrane Transporter/Ion Channel
Storage: Please store the product under the recommended conditions in the COA.

Solvent & Solubility

In Vitro 10 mM in DMSO

<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>1.0453 mL</td>
<td>5.2264 mL</td>
<td>10.4528 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.2091 mL</td>
<td>1.0453 mL</td>
<td>2.0906 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.1045 mL</td>
<td>0.5226 mL</td>
<td>1.0453 mL</td>
</tr>
</tbody>
</table>

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

BIOLOGICAL ACTIVITY

Description
Chebulinic acid is a potent natural inhibitor of M. tuberculosis DNA gyrase, also can inhibit SMAD-3 phosphorylation, inhibit H+ K+-ATPase activity.

IC₅₀ & Target
target: M. tuberculosis DNA gyrase[1], SMAD-3 phosphorylation[2], H+ K+-ATPase activity.[3]IC₅₀: 65.01 μg/ml (H+ K+-ATPase ) [3]

In Vitro
In vitro: binding of Chebulinic acid causes displacement of catalytic Tyr129 away from its target DNA-phosphate molecule. [1] Chebulinic acid reduce the expression and activity of MMP-2 at an ED50 value of 100 μM. EMT (Epithelial to Mesenchymal Transition) is found to be induced in ARPE-19 cells, through SMAD-3 phosphorylation and it is inhibited by CA. [2] Chebulinic acid significantly inhibited H+ K+-ATPase activity in vitro with IC₅₀ of 65.01 μg/ml.[3]

REFERENCES
[1]. Patel K et al. Identification of chebulinic acid as potent natural inhibitor of M. tuberculosis DNA gyrase and molecular insights into its binding mode of