Pulsatilla saponin D

Cat. No.: HY-N0834
CAS No.: 68027-15-6
Molecular Formula: C₄₇H₇₆O₁₇
Molecular Weight: 913.1
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 : ≥ 39 mg/mL (42.71 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

<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>1.0952 mL</td>
<td>5.4759 mL</td>
<td>10.9517 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.2190 mL</td>
<td>1.0952 mL</td>
<td>2.1903 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1095 mL</td>
<td>0.5476 mL</td>
<td>1.0952 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 (2.28 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (2.28 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (2.28 mM); Clear solution

BIOPHARMACEUTICAL ACTIVITY

Description
Pulsatilla saponin D (SB365), isolated from the root of Pulsatilla koreana Nakai, is an anti-tumor agent[1][2][3][4].

In Vitro
Pulsatilla saponin D (SB365) shows apoptotic effect accompanied by increased evidence of cleaved caspase-3 and poly (ADP ribose) polymerase[1].
Pulsatilla saponin D (SB365) strongly inhibits c-Met expression in gastric cancer cells[1].
Pulsatilla saponin D (SB365) strongly suppresses the growth and proliferation of 5 human pancreatic cancer cell lines (MIAPaCa-2, BXPC-3, PANC-1, AsPC-1 and HPAC) [2].
Pulsatilla saponin D (SB365) shows anti-angiogenic activity by decreasing the expression of HIF-1α and VEGF\(^3\).
Pulsatilla saponin D (0.3 ng/mL to 10 μg/mL) exhibits anti-tumor activity in NSCLC cancer cells\(^4\).
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### Cell Cytotoxicity Assay\(^4\)

<table>
<thead>
<tr>
<th>Cell Line</th>
<th>A-549, SKMEL-2, MCF-7, and Lewis lung carcinoma (LLC) cells.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration</td>
<td>0.3 ng/mL to 10 μg/mL.</td>
</tr>
<tr>
<td>Incubation Time</td>
<td>72 h.</td>
</tr>
<tr>
<td>Result</td>
<td>Exhibited an ED(_{50}) value of 6.3 μg/mL for A-549 cells.</td>
</tr>
</tbody>
</table>

### In Vivo

Pulsatilla saponin D (6.4 mg/kg) exhibits anti-tumor activity in Lewis lung carcinoma model\(^4\).
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| Animal Model | 2x2x2 mm\(^3\) tumor fragments of a Lewis lung carcinoma (LLC) transplanted s.c. into the auxiliary region of the BDF1 mice\(^4\). |
| Dosage | 6.4 mg/kg. |
| Administration | Intraperitoneally on the 1st to 7th and 9th to 14th day. |
| Result | Had such a potent antitumor effect (IR, 82 %) on a solid tumor, which is higher than Adriamycin (IR, 64%). |

### REFERENCES