**Jaceosidin**

**Cat. No.:** HY-N0831  
**CAS No.:** 18085-97-7  
**Molecular Formula:** $\text{C}_{17}\text{H}_{14}\text{O}_{7}$  
**Molecular Weight:** 330.29  
**Target:** Bcl-2 Family; COX; Apoptosis  
**Pathway:** Apoptosis; Immunology/Inflammation  
**Storage:**  
- Powder: -20°C 3 years  
- 4°C 2 years  
- In solvent: -80°C 6 months  
- -20°C 1 month

### SOLVENT & SOLUBILITY

**In Vitro**
- DMSO: 125 mg/mL (378.46 mM; Need ultrasonic)  
- Ethanol: 7.14 mg/mL (21.62 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>3.0276 mL</td>
<td>15.1382 mL</td>
<td>30.2764 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.6055 mL</td>
<td>3.0276 mL</td>
<td>6.0553 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.3028 mL</td>
<td>1.5138 mL</td>
<td>3.0276 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 (6.30 mM); Clear solution  
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.08 mg/mL (6.30 mM); Clear solution  
3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.08 mg/mL (6.30 mM); Clear solution

### BIOLOGICAL ACTIVITY

**Description**
Jaceosidin is a flavonoid isolated from Artemisia vestita, induces apoptosis in cancer cells, activates Bax and down-regulates Mcl-1 and c-FLIP expression\[^1\]. Jaceosidin exhibits anti-cancer\[^2\], anti-inflammatory activities, decreases levels of inflammatory markers, and suppresses COX-2 expression and NF-κB activation\[^3\].

**IC₅₀ & Target**

| Bax | COX-2 |
### In Vitro

| Jaceosidin (30, 50, 75 μM) induces apoptosis in human renal carcinoma Caki cells after treatment for 24 h, shows no obvious effect on normal cells\(^1\). |
| Jaceosidin (75 μM) reduces MMP levels and causes cytochrome c release into the cytoplasm through Bax activation\(^1\). |
| Jaceosidin-mediated apoptosis is involved in downregulation of Mcl-1, c-FLIP expression, which is via inhibition of NF-κB and/or Sp1 transcriptional activity\(^1\). |
| Jaceosidin shows cytostatic activity to HES and HESC cells with IC\(_{50}\)s of 52.68 and 55.10 μM, and is less cytotoxic on HeC1 A and KLE (IC\(_{50}\), 70.54, 147.14 μM, respectively), after treatment for 48 h\(^2\). |

**Cell Viability Assay**\(^2\)

| Cell Line: | Hec1A, KLE, HES and HESC cells |
| Concentration: | 3.125, 6.25, 12.5, 25, 50, and 100 μM |
| Incubation Time: | 48 hour |
| Result: | Showed cytostatic activity to HES and HESC cells with IC\(_{50}\)s of 52.68 and 55.10 μM, less cytotoxic on HeC1 A and KLE (IC\(_{50}\), 70.54, 147.14 μM). |

### In Vivo

| Jaceosidin (10 and 20 mg/kg, p.o., once a day for 3 days) blocks carrageenan-induced increase in leukocyte number and protein levels in air pouch exudates in mice\(^3\). |
| Jaceosidin (10, 20 mg/kg, p.o.) suppresses COX-2 expression and NF-κB activation in mice\(^3\). |
| Jaceosidin (20 mg/kg, p.o. for 2 hours) reduces hind paw edema volume in rats\(^3\). |

**Animal Model:** 5-week-old male BALB/c mice (23-26 g)\(^3\)

**Dosage:** 10 and 20 mg/kg

**Administration:** P.O. once a day for 3 days

**Result:** Decreased the volumes of exudates (inflammatory markers), cell number and protein levels. Inhibited TNF-α by 46.7% and 50.8%, IL-1β by 46.0% and 44.7%, and PGE2 by 21.7% and 16.9%, respectively, at 20 mg/kg. Blocked COX-2 expression and NF-κB activation.

**Animal Model:** Male Sprague-Dawley rats (180-200 g)\(^3\)

**Dosage:** 20 mg/kg

**Administration:** P.O., for 2 hours

**Result:** Reduced hind paw edema volume by 27.1% at 1 h, and 24.0% at 2 h, respectively.

### REFERENCES


Caution: Product has not been fully validated for medical applications. For research use only.

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