Aloin

**Cat. No.:** HY-N0123

**CAS No.:** 1415-73-2

**Molecular Formula:** C₂₁H₂₂O₉

**Molecular Weight:** 418.39

**Target:** Others

**Pathway:** Others

**Storage:**
- Powder: -20°C 3 years, 4°C 2 years
- In solvent: -80°C 6 months, -20°C 1 month

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### Solvent & Solubility

**In Vitro**

DMSO: ≥ 27 mg/mL (64.53 mM)

*“≥” means soluble, but saturation unknown.*

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>Mass 1 mg</th>
<th>Mass 5 mg</th>
<th>Mass 10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>2.3901 mL</td>
<td>11.9506 mL</td>
<td>23.9011 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.4780 mL</td>
<td>2.3901 mL</td>
<td>4.7802 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.2390 mL</td>
<td>1.1951 mL</td>
<td>2.3901 mL</td>
</tr>
</tbody>
</table>

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

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### BIOLOGICAL ACTIVITY

**Description**

Aloin (Aloin-A; Barbaloin-A) is a natural antitumor anthraquinone glycoside with iron chelating and non-atherogenic activities. IC₅₀ value:

**Target:**

- **in vitro:** Aloin significantly inhibited HUVECs proliferation, migration and tube formation in vitro. Suppressed activation of VEGF receptor (VEGFR) 2 and STAT3 phosphorylation in endothelial cells. In addition, the constitutively activated STAT3 protein, and the expression of STAT3-regulated antiapoptotic (Bcl-xL), proliferative (c-Myc), and angiogenic (VEGF) proteins were also down-regulated in response to AL in human SW620 cancer cells [1]. Aloin exerted inhibition of cell proliferation, adhesion and invasion abilities of B16-F10 melanoma cells under non-cytotoxic concentrations. Furthermore, aloin induced melanoma cell differentiation through the enhancement of melanogenesis and transglutaminase activity [2].

**in vivo:** Aloin substantially reduced tumor volumes and weight in vivo mouse xenografts, without obviously toxicity [1]. Aloin (10, 30 mg/kg bw) or vehicle was given by gavage to mice after each alcohol administration. Alcohol elevated the serum transaminases alanine aminotransferase, aspartate aminotransferase, total cholesterol and triglyceride levels which were significantly attenuated by the co-administration of aloin (p < 0.05) [3].
REFERENCES


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