# Chemical Properties

<table>
<thead>
<tr>
<th><strong>Product Name:</strong></th>
<th>Aclacinomycin A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cas No.:</strong></td>
<td>57576-44-0</td>
</tr>
<tr>
<td><strong>M.Wt:</strong></td>
<td>811.87</td>
</tr>
<tr>
<td><strong>Formula:</strong></td>
<td>C42H53NO15</td>
</tr>
<tr>
<td><strong>Synonyms:</strong></td>
<td>Jaclacin, Aclarubicin, Aclarubicin A</td>
</tr>
</tbody>
</table>

**Canonical SMILES:**

```
OC1=CC=CC(C2=C3C(O)=C4C([C@@H](C(OC)=O)[C@@](O)(CC)[C@@H]4O[C@@H]5C[C@@H](N(C)C)[C@@H](O[C@@H]6O[C@@H](C)[C@@H]7O[C@@H](C)(CC7)=O)[C@@H](O)C6)[C@@H](C)O5)=C2)=O)=C1C3=O
```

**Solubility:** Soluble in DMSO

**Storage:** Store at -20°C

**General tips:** For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

**Shopping Condition:** Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

# Biological Activity

**Targets:** Proteasome

**Pathways:** Ubiquitination/Proteasome >> Proteasome

**Description:**

Aclacinomycin A is a dual inhibitor of topoisomerase I and II [1]. Aclacinomycin A is an anticancer drug which can reduce the tumor with minimal damage to
normal cells. Aclacinomycin A shows potency against a wide variety of solid tumours and haematological malignancies. In A549, HepG2 and MCF-7 cells, Aclacinomycin A shows cytotoxic activity with IC50 values of 0.27μM, 0.32μM and 0.62μM, respectively. Aclacinomycin A induces cell apoptosis in these cells and the effects change to be necrosis when the incubation time is prolonged. Aclacinomycin A is demonstrated to increase the activity of both caspase-3 and caspase-8, thus inducing the activation of PARP. Apart from that, as an inhibitor of topoisomerase, Aclacinomycin A is found to induce DNA damage in V79 and irs-2 cells. Aclacinomycin A is used to treat acute leukaemias, lymphomas and other solid tumors through its inhibition of topo II [1, 2].

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.