Product Data Sheet

Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Name:</strong></td>
<td>ABT-737</td>
</tr>
<tr>
<td><strong>Cas No.:</strong></td>
<td>852808-04-9</td>
</tr>
<tr>
<td><strong>M.Wt:</strong></td>
<td>813.43</td>
</tr>
<tr>
<td><strong>Formula:</strong></td>
<td>C42H45ClN6O5S2</td>
</tr>
<tr>
<td><strong>Synonyms:</strong></td>
<td>ABT 737, ABT737</td>
</tr>
<tr>
<td><strong>Chemical Name:</strong></td>
<td>4-[4-[[2-(4-chlorophenyl)phenyl]methyl]piperazin-1-yl]-N-[4-[[2R]-4-(dimethylamino)-1-phenylsulfanylbutan-2-yl]amino]-3-nitrophenyl</td>
</tr>
<tr>
<td><strong>Canonical SMILES:</strong></td>
<td>CN(C)CCC(CSC1=CC=CC=C1)NC2=C(C=C=C)S(=O)(=O)NC(=O)C3=C(C=C=C)N4CCN(CC4)CC5=CC=C5C6=CC=C(C=C6)Cl<a href="%5BO-%5D">N+</a></td>
</tr>
<tr>
<td><strong>Solubility:</strong></td>
<td>&gt;40.7mg/mL in DMSO</td>
</tr>
<tr>
<td><strong>Storage:</strong></td>
<td>Store at -20°C</td>
</tr>
<tr>
<td><strong>General tips:</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Shopping Condition:</strong></td>
<td>Evaluation sample solution : ship with blue ice</td>
</tr>
<tr>
<td></td>
<td>All other available size: ship with RT, or blue ice upon request</td>
</tr>
</tbody>
</table>

Biological Activity

**Targets:** Bcl-2 Family

**Pathways:** Apoptosis >> Bcl-2 Family

**Description:**

ABT-737 is a novel and potent inhibitor of B-cell lymphoma 2 (BCL-2) family proteins, which are critical for cell survival and overexpressed in many tumor cells, with high affinity towards BCL-XL, BCL-2, and BCL-w but no affinity towards less homologous proteins, such as BCL-B, MCL-1, and A1. ABT-737 has shown single-agent activity against lymphoma and small-cell lung cancer as well
as substantial antimyeloma activity both in vitro and in vivo. In recent studies, acute myeloid leukemia blast, originator, and stem cells are effectively killed by ABT-737 with normal hematopoietic cells intact. The disruption of the BCL-2/BAX complex and BAK-dependent but BIM-independent activation of the intrinsic apoptotic pathway could also be induced by ABT-737.

**Reference:**


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**Protocol**

**Cell experiment:**

**Cell lines**

**Preparation method**
The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

**Reacting conditions**
48 h; 10 μM

**Applications**
The ability of ABT-737 to inhibit cell proliferation with single-agent activity was evaluated against a panel of 11 kinds of SCLC cell lines. Ac-DEVD-AMC, a substrate for activated caspase 3, was used to treatment of H146 cells for 24 h. A dose-dependent increase in apoptosis coincided with a dose-dependent decrease in cell viability following ABT-737 treatment suggesting that ABT-737 inhibits cell proliferation through the induction of apoptosis.

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**Animal experiment [3]:**

**Animal models**
Lymphoma-prone Eμ- myc transgenic mice

**Dosage form**
75 mg/kg body weight; the tail injection.
All B-lymphoid subsets in the ABT-737-treatment (75 mg/kg) cohort were significantly decreased, compared with the vehicle-treated animals, in both the bone marrow and the spleen. Eμ- myc animals treated with ABT-737 contained significantly (**P<0.01) more apoptotic cells in their bone marrow than vehicle-treated mice.

Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Reference:

Product Citations

Product Validation
Apoptosis induced by ABT-737 (100 nM) treatment for 24h in SCLC cell lines was detected by poly ADP-ribose polymerase (PARP) cleavage with immunoblot.
Whole cell lysates of Mel-RM and MM200 cells were subjected to Western blot analysis following treatment with ABT-737 (10µM) for indicated periods. Data are representative of three individual experiments.