RAD51 Inhibitor B02

Cat. No.: HY-101462
CAS No.: 1290541-46-6
Molecular Formula: C₂₂H₁₇N₃O
Molecular Weight: 339.39
Target: RAD51; Apoptosis
Pathway: Cell Cycle/DNA Damage; Apoptosis

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

SOLVENT & SOLUBILITY

<table>
<thead>
<tr>
<th>In Vitro</th>
<th>DMSO : ≥ 37 mg/mL (109.02 mM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>* “≥” means soluble, but saturation unknown.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.9465 mL</td>
<td>14.7323 mL</td>
<td>29.4646 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.5893 mL</td>
<td>2.9465 mL</td>
<td>5.8929 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2946 mL</td>
<td>1.4732 mL</td>
<td>2.9465 mL</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>In Vivo</th>
<th>1. Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Solubility: ≥ 2 mg/mL (5.89 mM); Clear solution</td>
</tr>
<tr>
<td></td>
<td>2. Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil</td>
</tr>
<tr>
<td></td>
<td>Solubility: ≥ 2 mg/mL (5.89 mM); Clear solution</td>
</tr>
</tbody>
</table>

BIOLOGICAL ACTIVITY

Description
RAD51 Inhibitor B02 (B02) is an inhibitor of human RAD51 with an IC₅₀ of 27.4 μM.

IC₅₀ & Target
IC₅₀: 27.4 μM (hRAD51)[1]

In Vitro
RAD51 Inhibitor B02 specifically inhibits human RAD51 (IC₅₀=27.4 μM), but not its E. coli homologue RecA (IC₅₀>250 μM)[1]. The combination of B02 with cisplatin has the strongest killing effect on the human breast cancer cells MDA-MB-231[2].
**In Vivo**

B02 significantly enhances the therapeutic effect of cisplatin on tumor cells *in vivo*. B02 is tolerated by mice at doses up to 50 mg/kg without obvious body weight loss. No inhibition of tumor growth is observed on mice solely treated by B02. Mice treated with 4 mg/kg cisplatin, however, shows a 33% inhibition of tumor growth. Finally, mice treated with 50 mg/kg B02 and 4 mg/kg cisplatin shows a 66% inhibition of tumor growth.\(^1\)

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**PROTOCOL**

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

The cells are exposed for 1 h, then the cells are ished by PBS three times and refreshed by the media containing B02 (5 µM). After 7-10 days, cells are fixed and stained with staining solution (0.05% crystal violet, 50% methanol in PBS); finally cell colonies are counted.\(^2\)

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**Animal Administration** \(^2\)

Mice: Cisplatin and B02 are dissolved in NS and cremophor/DMSO/NS (1:1:3) vehicle, respectively, immediately before injection. In a combination treatment group, the mice are injected with B02 (50 mg/kg or indicated otherwise) and cisplatin (4 mg/kg or indicated otherwise). In B02 group, mice are injected with B02 and NS; in cisplatin group, mice are injected with cisplatin and B02 vehicle. Cisplatin (or NS) is administrated 3 h after B02 (or its vehicle) injection. All the treatments are executed through I.P. injections on day 11, 13, 15 and 17 after tumor cells inoculations.\(^2\)

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**REFERENCES**


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

Tel: 609-228-6898  Fax: 609-228-5909  E-mail: tech@MedChemExpress.com  
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA