YHO-13351

Cat. No.: HY-12758
CAS No.: 1346753-00-1
Molecular Formula: $\text{C}_{27}\text{H}_{37}\text{N}_{3}\text{O}_{7}\text{S}_{2}$
Molecular Weight: 579.73
Target: BCRP
Pathway: Membrane Transporter/Ion Channel
Storage: Powder
-20°C 3 years
4°C 2 years
In solvent
-80°C 6 months
-20°C 1 month

**SOLVENT & SOLUBILITY**

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mg</td>
<td></td>
</tr>
<tr>
<td>5 mg</td>
<td></td>
</tr>
<tr>
<td>10 mg</td>
<td></td>
</tr>
</tbody>
</table>

**In Vitro**

DMSO $\geq 38 \text{ mg/mL} \ (65.55 \text{ mM})$

*“$\geq$” means soluble, but saturation unknown.*

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>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>1.7249 mL</td>
<td>8.6247 mL</td>
<td>17.2494 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.3450 mL</td>
<td>1.7249 mL</td>
<td>3.4499 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.1725 mL</td>
<td>0.8625 mL</td>
<td>1.7249 mL</td>
</tr>
</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

YHO-13351 is the water-soluble prodrug of YHO-13177, which is a potent and specific inhibitor of BCRP. IC50 value:

**Target:** BCRP inhibitor

**in vitro:** YHO-13177 potentiated the cytotoxicity of SN-38, mitoxantrone, and topotecan in both BCRP-transduced human colon cancer HCT116 (HCT116/BCRP) cells and SN-38-resistant human lung cancer A549 (A549/SN4) cells that express BCRP, but had little effect in the parental cells. In addition, YHO-13177 potentiated the cytotoxicity of SN-38 in human lung cancer NCI-H460 and NCI-H23, myeloma RPMI-8226, and pancreatic cancer AsPC-1 cells that intrinsically expressed BCRP. In contrast, it had no effect on P-glycoprotein–mediated paclitaxel resistance in MDR1-transduced human leukemia K562 cells and multidrug resistance-related protein 1–mediated doxorubicin resistance in MRP1-transfected human epidermoid cancer KB-3-1 cells. YHO-13177 increased the intracellular accumulation of Hoechst 33342, a substrate of BCRP, at 30 minutes and partially suppressed the expression of BCRP protein at more than 24 hours after its treatment in both HCT116/BCRP and A549/SN4 cells [1].

**in vivo:** In mice, YHO-13351 was rapidly converted into YHO-13177 after its oral or intravenous administration. Coadministration of irinotecan with YHO-13351 significantly increased the survival time of mice inoculated with BCRP-transduced murine leukemia P388 cells and suppressed the tumor growth in an HCT116/BCRP model.
xenograft model, whereas irinotecan alone had little effect in these tumor models [1].

REFERENCES