BP-1-102

Cat. No.: HY-100493
CAS No.: 1334493-07-0
Molecular Formula: C₂₉H₂₇F₅N₂O₆S
Molecular Weight: 626.59
Target: STAT
Pathway: JAK/STAT Signaling; Stem Cell/Wnt
Storage: Powder
-20°C: 3 years
4°C: 2 years
In solvent
-80°C: 6 months
-20°C: 1 month

**SOLVENT & SOLUBILITY**

**In Vitro**

DMSO: ≥ 33 mg/mL (52.67 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>1.5959 mL</td>
<td>7.9797 mL</td>
<td>15.9594 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.3192 mL</td>
<td>1.5959 mL</td>
<td>3.1919 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.1596 mL</td>
<td>0.7980 mL</td>
<td>1.5959 mL</td>
</tr>
</tbody>
</table>

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (3.99 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (3.99 mM); Clear solution

**BIOLOGICAL ACTIVITY**

**Description**
BP-1-102 is an orally available, small-molecule inhibitor of transcription factor Stat3, with an IC₅₀ of 6.8 μM.

**IC₅₀ & Target**
STAT3
6.8 μM (IC₅₀)

**In Vitro**
BP-1-102 binds Stat3 with an affinity Kᵢ of 504 nM. BP-1-102 inhibits Stat3 DNA-binding activity in vitro, with an IC₅₀ value of 6.8±0.8 μM. It blocks Stat3-phospho-tyrosine peptide interactions and Stat3 activation at 4-6.8 μM, and selectively inhibits growth, survival, migration, and invasion of Stat3-dependent tumor cells. BP-1-102-mediated inhibition of aberrantly active Stat3 in tumor cells suppresses the expression of c-Myc, Cyclin D1, Bcl-xL, Survivin, VEGF, and Krüppel-like factor 8[1].
In Vivo

Mice therapeutically given BP-1-102, an orally bioavailable compound targeting STAT3/NF-κB activation and cross-talk, exhibit reduced colon tumorigenesis and diminished expression of STAT3/NF-κB-activating cytokines in the neoplastic areas [2]. BP-1-102 is orally bioavailable and that the agent accumulates in tumor tissues at levels sufficient to inhibit aberrantly active Stat3 functions and inhibit tumor growth [1].

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

PROTOCOL

Cell Assay [1]

Proliferating cells in 6- or 96-well plates are treated once with 0-30 μM BP-1-102 for 24 h or with 10 μM BP-1-102 for up to 96 h. Viable cells are counted by trypan blue exclusion/phase-contrast microscopy or assessed by a cell proliferation kit [1].

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

Animal Administration [1]

Mice: Athymic nude mice with established tumors are grouped and then given BP-1-102 (in 0.05% DMSO in water) at 1 or 3 mg/kg (i.v.) every 2 or every 3 d or 3 mg/kg (oral gavage, 100 μL) every day for 15 or 20 d. Animals are monitored every day, and tumor sizes are measured with calipers and body weights are taken every 2 or 3 d. For each treatment group, the tumor volumes for each set of measurements are statistically analyzed in comparison with the control group using a paired T test [1].

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

CUSTOMER VALIDATION


See more customer validations on www.MedChemExpress.com

REFERENCES
