SUN11602

Cat. No.: HY-101493
CAS No.: 704869-38-5
Molecular Formula: C_{26}H_{37}N_{5}O_{2}
Molecular Weight: 451.6
Target: FGFR
Pathway: Protein Tyrosine Kinase/RTK
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: ≥ 37 mg/mL (81.93 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>1 mM</td>
<td></td>
<td>2.2143 mL</td>
<td>11.0717 mL</td>
<td>22.1435 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.4429 mL</td>
<td>2.2143 mL</td>
<td>4.4287 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
<td>0.2214 mL</td>
<td>1.1072 mL</td>
<td>2.2143 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 (5.54 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.54 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.54 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
SUN11602 is a novel aniline compound with basic fibroblast growth factor-like activity.

In Vitro
SUN11602 prevents glutamate-induced neuronal death in primary cultures of rat cerebrocortical neurons. SUN11602 increases the levels of CALB1 gene expression in cerebrocortical neurons[1]. SUN11602 exerts protective effects on hippocampal neurons through activation of FGFR1 and increases CalB expression[2]. SUN11602 promotes neurite
In Vivo

In WT mice, SUN11602 increases the levels of newly synthesized Calb in cerebrocortical neurons and suppresses the glutamate-induced rise in intracellular Ca\(^{2+}\). This Ca\(^{2+}\)-capturing ability of Calb allows the neurons to survive severe toxic conditions of glutamate\([1]\). Oral administration of SUN11602 at the midpoint of A\(\beta\)-40 and ibotenate injections attenuate short-term memory impairment in the Y-maze test, as well as spatial learning deficits in the water maze task. In addition, the SUN11602 treatment inhibits the increase of peripheral-type benzodiazepine-binding sites (PTBBS), which are a marker for gliosis\([3]\).

PROTOCOL

Cell Assay \([1]\)

Cerebrocortical neurons are pretreated with vehicle (Hanks’ Balanced Salt Solution), SUN11602, bFGF, or the other growth factors for 24 h prior to the onset of glutamate toxicity. Subsequently, 10 \(\mu\)L of the MTT solution (5 mg/mL) is added to each well (200 \(\mu\)L of culture medium) of the microplates. Neurons in each well are then dried for 24 h, and 200 \(\mu\)L of DMSO is poured into all of the wells in order to dissolve the reaction products thoroughly for the MTT assay\([1]\).

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

Animal Administration \([3]\)

Rats: SUN11602 (0.1, 1, and 10 mg/kg) is administered orally to the rat hippocampal-lesion model, once at 24 h after the A\(\beta\)-40 injection. In the vehicle-treated groups, saline is administered instead of SUN11602\([3]\).

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REFERENCES

