Tideglusib

Cat. No.: HY-14872
CAS No.: 865854-05-3
Molecular Formula: C₁₉H₁₄N₂O₂S
Molecular Weight: 334.39
Target: GSK-3
Pathway: PI3K/Akt/mTOR; 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: 33.33 mg/mL (99.67 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
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<tr>
<td></td>
<td>2.9905 mL</td>
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<td>14.9526 mL</td>
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<td>29.9052 mL</td>
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<td>5 mM</td>
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<td>0.5981 mL</td>
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<td>2.9905 mL</td>
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<td>5.9810 mL</td>
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<td>10 mM</td>
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<td></td>
<td>0.2991 mL</td>
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<td>1.4953 mL</td>
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<td></td>
<td>2.9905 mL</td>
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</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 (7.48 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (7.48 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Tideglusib (NP031112) is an irreversible GSK-3 inhibitor with $IC_{50}$s of 5 nM and 60 nM for GSK-3$^\beta$WT (1 h preincubation) and GSK-3$^\beta$C199A (1 h preincubation), respectively.

$IC_{50}$ & Target
- GSK-3$^\beta$(WT) 5 nM ($IC_{50}$)
- GSK-3$^\beta$(C199A) 60 nM ($IC_{50}$)

In Vitro
Incubation of both astrocyte and microglial cultures with Tideglusib (NP031112) completely abrogates the induction of TNF-α and COX-2 expression after glutamate treatment. These effects of NP031112 are not caused by a loss of cell viability, because the 24 h exposure of astrocyte and microglial cells to this TDZD does not modify cell viability$^{[2]}$. 

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In Vivo injection of Tideglusib (NP031112) (50 mg/kg) into the rat hippocampus dramatically reduces kainic acid-induced inflammation, as measured by edema formation using T2-weighted magnetic resonance imaging and glial activation and has a neuroprotective effect in the damaged areas of the hippocampus\textsuperscript{[2]}. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**PROTOCOL**

**Animal Administration \textsuperscript{[2]}**

Adult male Wistar rats (8-12 weeks old) are used in this study. Rats (n ≥ 5 per group) are placed into a stereotaxic apparatus. KA (1 μg in 2.5 μL PBS) alone or in combination with Tideglusib (2 ng in 2.5 μL PBS) is injected into the hippocampus. Control animals of the same age are injected with vehicle. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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**REFERENCES**
