TRC051384

Cat. No.: HY-101712
CAS No.: 867164-40-7
Molecular Formula: C₂₅H₃₁N₅O₄
Molecular Weight: 465.54
Target: HSP
Pathway: Cell Cycle/DNA Damage; Metabolic Enzyme/Protease
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: ≥ 100 mg/mL (214.80 mM)
*“≥” means soluble, but saturation unknown.

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.1480 mL</td>
<td>10.7402 mL</td>
<td>21.4804 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4296 mL</td>
<td>2.1480 mL</td>
<td>4.2961 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2148 mL</td>
<td>1.0740 mL</td>
<td>2.1480 mL</td>
</tr>
</tbody>
</table>

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

BIOLOGICAL ACTIVITY

Description
TRC051384 is a heat shock protein 70 (HSP70) inducer.

IC₅₀ & Target
HSP70

In Vitro
TRC051384, dose dependently induces HSP70B mRNA by several hundred folds in both HeLa and rat primary mixed neurons. Treatment with TRC051384 results in significant dose-dependent increase in HSF1 transcriptional activity and recovery of luciferase activity. TRC051384 results in 60% inhibition at 6.25 μM and 90% inhibition at 12.5 μM of LPS-induced TNF-α expression in differentiated THP-1 cell line[1].

In Vivo
Treatment with TRC051384 significantly reduces stroke associated neuronal injury (87% reduction in area of penumbra recruited to infarct, and 25% reduction in brain edema) and disability in a rat model of transient ischemic stroke even when administered 8 hours post onset of ischemia. Significant improvement in survival (50% by day 2 and 67.3% by day 7) is observed with TRC051384 treatment initiated at 4 hours after ischemia onset. Induction of HSP70...
by TRC051384 involves HSF1 activation and results in elevated chaperone and anti-inflammatory activity\(^1\).

## PROTOCOL

### Cell Assay \(^1\)

HeLa cell transiently co-transfected with heat shock elements-luciferase reporter and normalization vector, β-galactosidase are treated with vehicle or TRC051384 (12.5 and 25 \(\mu\)M) for 4 hours. Cell lysates are then prepared and analyzed for luciferase and β-galactosidase activity\(^1\).

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

### Animal Administration \(^1\)

Rats: Injured hemispheres from vehicle treated animals and TRC051384 treated animals are collected at 10-hour post-initiation of tMCAo. Total RNA from each brain sample is extracted followed by cDNA preparation. Each sample of cDNA is analyzed\(^1\).

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

## REFERENCES


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

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