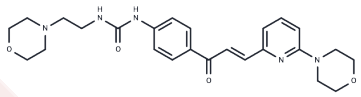
# Data Sheet (Cat.No.T3527)

TargetMol

TRC051384

## Chemical Properties



CAS No. : 867164-40-7

Formula: C25H31N5O4

Molecular Weight: 465.54

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

## Biological Description

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|---|---|
| Description | TRC051384 is a heat shock protein 70 (HSP70) inducer that reduces stroke-associated neuronal damage and increases survival in a rat model of transient ischemic stroke, activates heat shock factor-1 and leads to elevated molecular chaperone and anti-inflammatory activity, and enhances Hsp72 expression in neurons and glial cells. |
| Targets(IC50) | HSP |
| In vitro | TRC051384 significantly enhances HSP70B mRNA expression hundreds of times in both HeLa cells and rat primary mixed neurons in a dose-dependent fashion. Additionally, it markedly boosts HSF1 transcriptional activity and luciferase recovery upon treatment, following a dose-responsive pattern. Furthermore, TRC051384 demonstrates substantial inhibitory effects on LPS-induced TNF-α expression in the differentiated THP-1 cell line, achieving 60% inhibition at 6.25 μM and 90% inhibition at 12.5 μM [1]. |
| In vivo | Administering TRC051384 significantly diminishes stroke-related neuronal damage and disability in a rat model of transient ischemic stroke, achieving an 87% reduction in the area of the penumbra recruited to infarct and a 25% reduction in brain edema, even when treatment commences 8 hours after ischemia onset. Additionally, initiating TRC051384 treatment 4 hours post-ischemia onset notably enhances survival rates, with a 50% improvement by day 2 and a 67.3% increase by day 7. The mechanism underlying TRC051384's efficacy involves the induction of HSP70 through HSF1 activation, which amplifies chaperone and anti-inflammatory activities[1]. |
| Cell Research | 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 μM) for 4 hours. Cell lysates are then prepared and analyzed for luciferase and β-galactosidase activity[1]. |

## Solubility Information

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| Solubility | DMSO: 16.67 mg/mL (35.81 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.3 mM),Sonication is recommended.<br>*Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.* |

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|---|---|
| In vivo Formulation | *Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.* |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 2.148 mL | 10.7402 mL | 21.4804 mL |
| 5 mM | 0.4296 mL | 2.148 mL | 4.2961 mL |
| 10 mM | 0.2148 mL | 1.074 mL | 2.148 mL |
| 50 mM | 0.043 mL | 0.2148 mL | 0.4296 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Mohanan A, et al. Delayed intervention in experimental stroke with TRC051384--a small molecule HSP70 inducer. Neuropharmacology. 2011 May;60(6):991-9.