

TRC051384

Chemical Properties

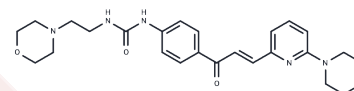
CAS No. : 867164-40-7

Formula: C₂₅H₃₁N₅O₄

Molecular Weight: 465.54

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year



Biological Description

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 μ M and 90% inhibition at 12.5 μ M [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 μ M) for 4 hours. Cell lysates are then prepared and analyzed for luciferase and β -galactosidase activity[1].

Solubility Information

Solubility	DMSO: 16.67 mg/mL (35.8 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	---

A DRUG SCREENING EXPERT

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.

Reference

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

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only· Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:36 Washington Street,Wellesley Hills,MA 02481