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Produktinformation

- Forschungsprodukte & Biochemikalien
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- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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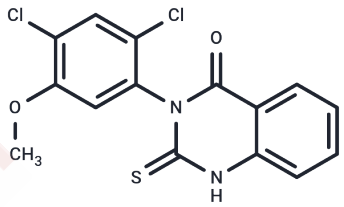
Data Sheet (Cat.No.T1907)

TargetMol

Mdivi-1

Chemical Properties



CAS No. : 338967-87-6

Formula: C15H10Cl2N2O2S

Molecular Weight: 353.22

Appearance: no data available

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

Biological Description

Description	Mdivi-1 (Mitochondrial division inhibitor 1) is a mitochondrial division inhibitor that inhibits DRP1 and Dynamin I (IC50=1-10 μM). Mdivi-1 inhibits mitochondrial autophagy.
Targets(IC50)	Apoptosis,Mitophagy,Dynamin,Autophagy
In vitro	In the ganglion cell layer (GCL), Mdivi-1 exhibits strong immunoreactivity. Twelve hours following ischemic induction, Mdivi-1 significantly increases protein expression within the GCL. It notably reduces the expression of GFAP protein without altering Drp1 protein expression. In the normal murine retina, Mdivi-1 primarily localizes to the inner plexiform layer, ganglion cell layer, outer plexiform layer, and inner nuclear layer. Early in the development of the ischemic murine retina, there is a marked increase in the protein expression of Mdivi-1 and glial fibrillary acidic protein (GFAP). Mdivi-1 inhibits apoptosis in the ischemic retina and significantly increases the survival rate of retinal ganglion cells (RGC) two weeks post-ischemia.
In vivo	Mdivi-1 inhibits the ATPase activity and self-assembly of Dnm1 by inducing a conformational change (IC50<10 μM). It effectively suppresses C8-Bid and STS-induced mitochondrial outer membrane permeabilization (MOMP) in HeLa cells and extracellular mouse liver mitochondria. Mdivi-1 blocks the divisionof Dynamin-related GTPases, yeast Dnm1, and human Drp1, facilitating efficient and reversible mitochondrial fusion into a net-like structure. Intracellularly, it prevents apoptosis by inhibiting mitochondrial outer membrane permeabilization. Mdivi-1 represents a potential therapeutic class for treating stroke, myocardial infarction, and neurodegenerative diseases.
Kinase Assay	All GTPase assay reactions are started in a 200 μL volume, of which 150 μL is placed into the well of a 96-well plate. Depletion of NADH, as monitored by reading the A340 of the reaction, is measured every 20 s for a total of 40 min using a SpectraMAX 250 96-well plate reader. Spectrophotometric data are transferred to Excel and the measured steady state depletion of NADH over time is converted to protein activity.
Cell Research	Mdivi-1 is dissolved in DMSO. YPGlycerol plates are topped with 10 mL YPGlycerol containing 1% low melt agar and 75 μM mdivi-1, and cells are spotted 12 hours later using a 48 well pinning device. After pinning cells, plates are incubated at 24°C or 37°C and imaged using an Eagle Eye II imaging system.

Solubility Information

Solubility	DMSO: 50 mg/mL (141.55 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8311 mL	14.1555 mL	28.311 mL
5 mM	0.5662 mL	2.8311 mL	5.6622 mL
10 mM	0.2831 mL	1.4155 mL	2.8311 mL
50 mM	0.0566 mL	0.2831 mL	0.5662 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

Fang CT, et al. Mdivi-1 induces spindle abnormalities and augments taxol cytotoxicity in MDA-MB-231 cells. Cell Death Discov. 2021 May 20;7(1):118.
Li Q, Chu Y, Li S, et al. The oncoprotein MUC1 facilitates breast cancer