Anti-inflammatory agent 49

Cat. No.: HY-155656

CAS No.: 851471-44-8

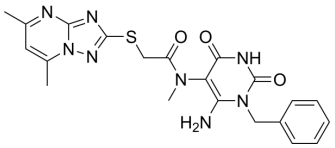
Molecular Formula: $C_{21}H_{22}N_8O_3S$

Molecular Weight: 466.52

Target: Others

Pathway: Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (214.35 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1435 mL	10.7177 mL	21.4353 mL
	5 mM	0.4287 mL	2.1435 mL	4.2871 mL
	10 mM	0.2144 mL	1.0718 mL	2.1435 mL

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 (5.36 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.36 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.36 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

nti-inflammatory agent 49 (compound SC9) is a quite potent and selective inhibitor of Drp1-Fis1 interaction and can reduce FIS1-mediated mitochondrial dysfunction. The IC_{50} of SC9 inhibiting GTPase in vitro is 270 nM[1].

IC_{50} & Target

IC50: 270 nM (dynamin-related protein 1 ,Drp1)[1]

In Vitro

1.Anti-inflammatory agent 49 can reduce the mitochondrial dysfunction of H9c2 cells induced by LPS (HY-D1056) and save the mice endotoxemia induced by LPS[1].
2.Anti-inflammatory agent 49 inhibits Drp1 association with the mitochondria and Drp1-Fis1 interaction following LPS treatment[1].

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

Cell Viability Assay

Cell Line:	H9c2 cells[1]
Concentration:	2 μM
Incubation Time:	16 h
Result:	Decreased the percentage of cells with fragmented mitochondria. The percent of fragmented cells was decreased from 22% (LPS + Veh) to 9% (LPS + SC9), relative to 4% in the absence of LPS[1].

Western Blot Analysis

Cell Line:	H9c2 cells[1]
Concentration:	2 μM
Incubation Time:	24 h
Result:	Decreased the number of high Drp1-Fis1 cells from 67% (LPS + Veh) to 28% (LPS + P110) and to 14% (LPS + SC9).[1]

In Vivo

Anti-inflammatory agent 49 (10 mg/kg, every 8 h for 72 h) rescues mice from LPS-induced endotoxemia[1].

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

Animal Model:	Female BALB/c AnNCrl micee (Strain Code 028)[1]
Dosage:	LPS doses 10–16.67 mg/kg, SC9 doses 10 mg/kg(after 4 h)
Administration:	Intraperitoneal injection: 0.2 mL of LPS,0.1 mL of CS9; scored every 8 h for 72 h.
Result:	Improved mouse survival at all LPS doses tested at the different LPS doses (10 to 16.6 mg/kg) . Dramatically reduced the occurrence of critical symptoms such as respiratory distress.

REFERENCES

[1]. Luis Rios, et al. Targeting an allosteric site in dynaminrelated protein 1 to inhibit Fis1-mediated mitochondrial dysfunction. Nat Commun. 2023 Jul 19;14(1):4356

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA