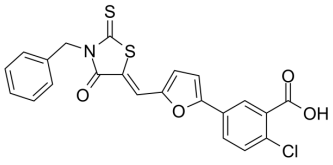
4E2RCat

Cat. No.:	HY-100733
CAS No.:	432499-63-3
Molecular Formula:	$C_{22}H_{14}ClNO_4S_2$
Molecular Weight:	455.93
Target:	Eukaryotic Initiation Factor (eIF); Autophagy; Virus Protease
Pathway:	Cell Cycle/DNA Damage; Autophagy; Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 23.33 mg/mL (51.17 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1933 mL	10.9666 mL	21.9332 mL
	5 mM	0.4387 mL	2.1933 mL	4.3866 mL
	10 mM	0.2193 mL	1.0967 mL	2.1933 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: 2.33 mg/mL (5.11 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

4E2RCat is an inhibitor of eIF4E-eIF4G interaction with an IC_{50} of 13.5 μM.

IC_{50} & Target

IC50: 13.5 μM (eIF4E-eIF4G)[1]

In Vitro

4E2RCat prevents the interaction between eIF4E (the cap-binding protein) and eIF4G (a large scaffolding protein), inhibiting cap-dependent translation. It significantly decreases human coronavirus 229E (HCoV-229E) replication, reducing the percentage of infected cells and intra- and extracellular infectious virus titers. 4E2RCat inhibits cap-dependent translation in a dose-dependent manner. 4E2RCat inhibits cap-dependent FF translation but not EMCV IRES-driven Ren translation. 4E2RCat inhibits coronavirus replication in a dose- and time-dependent manner[1].

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

In Vivo

4E2RCat inhibits protein synthesis in vivo and it is not a consequence of increased cell death[1].

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PROTOCOL

Cell Assay [1]

L132 cells are treated with 12.5 μM 4E2RCat for the indicated times and are processed for annexin V/propidium iodide staining. To this end, cell medium is collected. Cells are ished with 1 mL PBS, which is collected as well, and trypsinized in 200 μL 0.05% trypsin-EDTA. Cells are pooled with previously collected supernatants and spun for 2 min at 2,000 rpm and 4°C. The cell pellet is ished with 2 mL cold PBS, followed by another spin. After the second spin, the cell pellet is resuspended in 100 μL annexin V binding buffer and propidium iodide added to a final concentration of 5 μg/mL. After the addition of 5 μL annexin V-fluorescein isothiocyanate, samples are incubated for 15 min in the dark at room temperature and diluted. Fluorescence-activated cell sorter (FACS) analyses are performed using a FACScan instrument[1].

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

CUSTOMER VALIDATION

- Patent. US20220249439A1.
- bioRxiv. May 27, 2021.

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REFERENCES

[1]. Cencic R, et al. Blocking eIF4E-eIF4G interaction as a strategy to impair coronavirus replication. J Virol. 2011 Jul;85(13):6381-9.

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