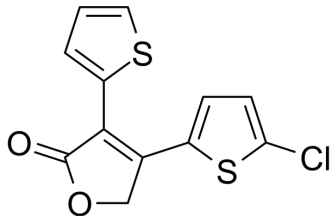
YC-001

Cat. No.:	HY-124717
CAS No.:	748778-73-6
Molecular Formula:	$C_{12}H_7ClO_2S_2$
Molecular Weight:	282.77
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (353.64 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.5364 mL	17.6822 mL	35.3644 mL
5 mM	0.7073 mL	3.5364 mL	7.0729 mL
10 mM	0.3536 mL	1.7682 mL	3.5364 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 (8.84 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.84 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

YC-001 is an inverse agonist and antagonist of rod opsin. YC-001 reversibly binds rod opsin and stabilizes the rod opsin structure. YC-001 protects mice from bright light-induced retinal degeneration. YC-001 has the potential for the research of retinal degeneration[1].

IC_{50} & Target

rod opsin

In Vitro

YC-001 (0-100 μM) shows a potency activity of 8.7 μM and an efficacy at 150–310%[1].
YC-001 (0.5, 1, 5, 10, 20, 40 μM) improves the glycosylation profile of P23H opsin mutant[1].
YC-001 (0,-1.5 μM) reversibly binds rod opsin with EC_{50} OF 0.98 μM[1].
YC-001 (0.313, 0.625, 1.25, 2.5, 5, 10, 20, 80 μM) increases in cAMP level in a dose-dependent manner in NIH3T3 cells[1].

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

Western Blot Analysis[1]

Cell Line:	NIH3T3 cells
Concentration:	0.5, 1, 5, 10, 20, 40 μM
Incubation Time:	
Result:	Improved the glycosylation profile of P23H opsin.

In Vivo

YC-001 (50, 200mg/kg; i.p.) protects Abca4−/−Rdh8−/− mice from bright light-induced retinal degeneration[1].
YC-001 (200mg/kg; i.p.) enters mouse eyes after systemic administration but is not retained for prolonged periods[1].
YC-001 (100 mg/kg, 200 mg/kg; i.p.; daily for 24 days) shows virtually no acute toxicity[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	6-week-old Abca4 −/−Rdh8−/− mice[1]
Dosage:	50, 200mg/kg
Administration:	I.P.
Result:	Protected Abca4−/−Rdh8−/− mice from bright light-induced retinal degeneration.

Animal Model:	C57BL/6 mouse[1]
Dosage:	200 mg/kg
Administration:	I.P.
Result:	Entered mouse eyes after systemic administration but is not retained for prolonged periods.

Animal Model:	C57BL/6 mice[1]
Dosage:	100 mg/kg, 200 mg/kg
Administration:	I.p.; daily, 24 days
Result:	Showed no acute toxicity.

REFERENCES

[1]. Chen Y, et al. A novel small molecule chaperone of rod opsin and its potential therapy for retinal degeneration. Nat Commun. 2018 May 17;9(1):1976.

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