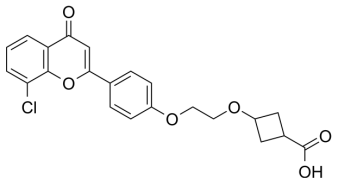
ccc_R08

Cat. No.:	HY-148560
CAS No.:	2919019-72-8
Molecular Formula:	$C_{22}H_{19}ClO_6$
Molecular Weight:	414.84
Target:	HBV; DNA/RNA Synthesis
Pathway:	Anti-infection; Cell Cycle/DNA Damage
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (241.06 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4106 mL	12.0528 mL	24.1057 mL
	5 mM	0.4821 mL	2.4106 mL	4.8211 mL
	10 mM	0.2411 mL	1.2053 mL	2.4106 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 (6.03 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (6.03 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 2.5 mg/mL (6.03 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

ccc_R08 is a non-cytotoxic and orally active cccDNA inhibitor that reduces cccDNA levels in the liver of HBV-infected mice. ccc_R08 can be used in the study of HBV virus (hepatitis B virus) infection[1][2].

IC_{50} & Target

cccDNA[1][2].

In Vitro

ccc_R08 (0.3, 1.0, 3.2, 10, 32 μM; 5 days) significantly reduces the level of cccDNA, protein-free RC-DNA, and double stranded linear DNA (DL-DNA) in HepDES19 cells[1].
ccc_R08 (0-100 μM) dose-dependently reduces the level of extracellular HBeAg from HepDES19 cells, with IC_{50} of ~0.1 μM[1].

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

Western Blot Analysis[1]

Cell Line:	HepDES19 cells
Concentration:	0.3, 1.0, 3.2, 10, 32 μM
Incubation Time:	5 days
Result:	Reduced the level of cccDNA, protein-free RC-DNA, and double stranded linear DNA (DL-DNA).

In Vivo

ccc_R08 (20 mg/kg; p.o.; twice per day for 2 weeks) clears cccDNA from the liver of HBVcircle mice[1].

ccc_R08 (10, 15, 20, 30 mg/kg; p.o.; twice per day for 2 weeks) significantly decreases the serum level of pgRNA in a dose-dependent manner, and the reduction in pgRNA is quantitatively correlated with that in liver cccDNA at different doses[1].

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

Animal Model:	HBVcircle mouse model [1].
Dosage:	20 mg/kg
Administration:	Oral administration; twice per day for 2 weeks
Result:	Led to the clearance of cccDNA from HBVcircle mouse livers.

Animal Model:	HBVcircle mouse model [1].
Dosage:	10, 15, 20, 30 mg/kg
Administration:	Oral administration; twice per day for 42 days
Result:	Led to a sustained reduction in the serum levels of pgRNA.

REFERENCES

[1]. Wang L, et al. Discovery of a first-in-class orally available HBV cccDNA inhibitor. J Hepatol. 2022 Dec 29:S0168-8278(22)03466-3.

[2]. Ligat G, et al. Targeting Viral cccDNA for Cure of Chronic Hepatitis B. Curr Hepatol Rep. 2020 Sep;19(3):235-244.

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