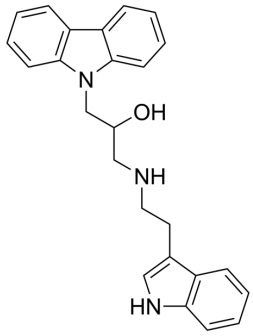
DC-05

Cat. No.:	HY-12746
CAS No.:	890643-16-0
Molecular Formula:	$C_{25}H_{25}N_3O$
Molecular Weight:	383.49
Target:	DNA Methyltransferase
Pathway:	Epigenetics
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 : 100 mg/mL (260.76 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6076 mL	13.0381 mL	26.0763 mL
	5 mM	0.5215 mL	2.6076 mL	5.2153 mL
	10 mM	0.2608 mL	1.3038 mL	2.6076 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.52 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

DC-05 is a DNA methyltransferase 1 (DNMT1) inhibitor, with an IC_{50} and a K_d of 10.3 μM and 1.09 μM, respectively.

IC_{50} & Target

DNMT1	DNMT1	PRMT1
1.09 μM (Kd)	10.3 μM (IC_{50})	37.1 μM (IC_{50})

In Vitro

DC-05 is a DNA methyltransferase 1 (DNMT1) inhibitor, with an IC_{50} and a K_d of 10.3 μM and 1.09 μM, respectively. DC-05 shows less potent activities against DNMT3A, DNMT3B, G9a, SUV39H1, MLL1, SET7/9, and PRMT1 (IC_{50}: >200, >200, >150, >150, >150, >150, 37.1 μM). DC-05 (1.25, 2.5, 5, and 10 μM) potently inhibits the proliferation of HCT116 (human colon cancer) and Capan-1 (human pancreatic adenocarcinoma cells) after treatment for 24, 48, and 72 h[1].

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

PROTOCOL

Kinase Assay [1]

To measure the effects of DC-05 on mouse DNMT1 activity, 200 nM purified DNMT1 is incubated with 200 μM of DC-05 and S-adenosylmethionine (AdoMet) in the DNMT assay buffer in the assay plate at 37°C for 2 h. Next, every sample is incubated with the capture and detection antibody, followed by incubation with developer solution for 10 min at room temperature. The absorbance is measured at 450 nm using a microplate reader. S-Adenosylhomocysteine (AdoHcy) is used as a positive control[1].

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

CUSTOMER VALIDATION

- bioRxiv. 2023 Jan 31.

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REFERENCES

[1]. Chen S, et al. Identifying novel selective non-nucleoside DNA methyltransferase 1 inhibitors through docking-based virtual screening. J Med Chem. 2014 Nov 13;57(21):9028-41.

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