DC_517

Cat. No.: HY-12747

CAS No.: 500017-70-9

Molecular Formula: $C_{33}H_{35}N_3O_2$

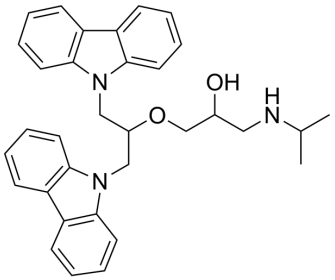
Molecular Weight: 505.65

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 : ≥ 50 mg/mL (98.88 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9777 mL	9.8883 mL	19.7765 mL
	5 mM	0.3955 mL	1.9777 mL	3.9553 mL
	10 mM	0.1978 mL	0.9888 mL	1.9777 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: ≥ 3.25 mg/mL (6.43 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 3.25 mg/mL (6.43 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3.25 mg/mL (6.43 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

DC_517 is a DNA methyltransferase 1 (DNMT1) inhibitor, with an IC_{50} and a K_d of 1.7 μM and 0.91 μM, respectively.

IC_{50} & Target

DNMT1 0.91 μM (Kd)	DNMT1 1.7 μM (IC_{50})

In Vitro

DC_517 is a DNA methyltransferase 1 (DNMT1) inhibitor, with an IC_{50} and a K_d of 1.7 μM and 0.91 μM, respectively. DC_517

(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. DC_517 (0, 0.75, 1.5, and 3 μM) also dose-dependently induces apoptotic cell death in HCT116 cells[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_517 on mouse DNMT1 activity, 200 nM purified DNMT1 is incubated with 200 μM of DC_517 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

- Biol Trace Elem Res. 2023 Mar 29.

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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):9028-9041.

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