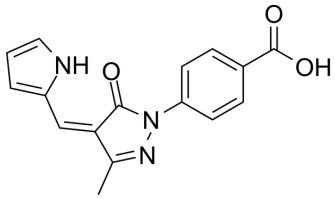
MC4033

Cat. No.:	HY-149302
CAS No.:	28532-21-0
Molecular Formula:	$C_{16}H_{13}N_3O_3$
Molecular Weight:	295.29
Target:	Apoptosis; Autophagy; Histone Acetyltransferase
Pathway:	Apoptosis; Autophagy; Epigenetics
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 : 25 mg/mL (84.66 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3865 mL	16.9325 mL	33.8650 mL
	5 mM	0.6773 mL	3.3865 mL	6.7730 mL
	10 mM	0.3387 mL	1.6933 mL	3.3865 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 (8.47 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MC4033 shows IC_{50}s of 39.4 μM, 52.1 μM, 41 μM and 30.1 μM in HCT116, H1299, A549 and U937, respectively[1].
MC4033 (25, 50, 100, and 200 μM, 72 h) reduces the level of H4K16Ac in HT29 cells, suggesting its ability to inhibit KAT8 in cells[1].

IC_{50} & Target

12.1μM (lysine acetyltransferase 8, KAT8)[1]

In Vitro

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

Cell Proliferation Assay[1]

Cell Line:	HT29, HCT116, HeLa, H1299, A549, H460, MCF7, U937, and U251 cells
Concentration:	10, 25, 50, and 100 μM
Incubation Time:	72 h
Result:	Displayed dose-dependent antiproliferative effects in HCT116, H1299, A549, and U937 cell lines. The inhibition rate of cell proliferation was 70% at 50 μM and >80% at 100 μM in U937 cells.

Cell Cycle Analysis[1]

Cell Line:	HT29, HCT116, and HeLa cells
Concentration:	50 μM and 100 μM
Incubation Time:	72 h
Result:	Propidium iodide (PI) staining showed a slight increase in the percentage of cells with DNA hypodiploid peak, indicative of apoptosis.

RT-PCR[1]

Cell Line:	HCT116 cells
Concentration:	100 μM
Incubation Time:	48h
Result:	Reduced the mRNA levels of oncogenes UCP2.

Immunofluorescence[1]

Cell Line:	HT29 cells
Concentration:	50 μM
Incubation Time:	24 h
Result:	Reduced H4K16Ac signal intensity by 80%.

Western Blot Analysis[1]

Cell Line:	HCT116 cells
Concentration:	0,10, 25, 50,100 μM
Incubation Time:	48 h
Result:	Showed that the altered ratio of LC3-II/-I and the regulation of p62 autophagy markers indicated the activation of autophagy in HCT116 cells.

Apoptosis Analysis[1]

Cell Line:	HCT116 cells
Concentration:	100 μM or 10 μM (MC4033/CQ)
Incubation Time:	72 h

Result:	Showed that exposure of HCT116 cells to CQ increased the apoptotic effect of KAT8i.

REFERENCES

[1]. Fiorentino F, et al. First-in-Class Selective Inhibitors of the Lysine Acetyltransferase KAT8. J Med Chem. 2023 May 25;66(10):6591-6616

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