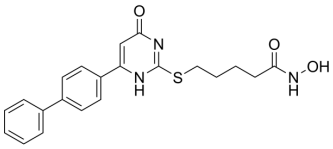
MC1742

Cat. No.:	HY-110280
CAS No.:	1776116-74-5
Molecular Formula:	$C_{21}H_{21}N_3O_3S$
Molecular Weight:	395.47
Target:	HDAC; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Epigenetics; Apoptosis
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 : 200 mg/mL (505.73 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5286 mL	12.6432 mL	25.2864 mL
	5 mM	0.5057 mL	2.5286 mL	5.0573 mL
	10 mM	0.2529 mL	1.2643 mL	2.5286 mL

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

BIOLOGICAL ACTIVITY

Description

MC1742 is a potent HDAC inhibitor, with IC_{50}s of 0.1 μM, 0.11 μM, 0.02 μM, 0.007 μM, 0.61 μM, 0.04 μM and 0.1 μM for HDAC1, HDAC2, HDAC3, HDAC6, HDAC8, HDAC10 and HDAC11, respectively. MC1742 can increase acetyl-H3 and acetyl-tubulin levels and inhibits cancer stem cells growth. MC1742 can induce growth arrest, apoptosis, and differentiation in sarcoma CSC[1].

IC_{50} & Target

HDAC1 0.1 μM (IC_{50})	HDAC2 0.11 μM (IC_{50})	HDAC3 0.02 μM (IC_{50})	HDAC6 0.007 μM (IC_{50})
HDAC8 0.61 μM (IC_{50})	HDAC10 0.04 μM (IC_{50})	HDAC11 0.1 μM (IC_{50})	

In Vitro

MC1742 (compound 1) (0.5 and 2 μM; 24 hours) increases acetylation in a dose-dependent manner, observable as punctuate nuclear staining of acetyl-histone H3[1].

MC1742 (0.5, 1 and 2 μM; 24, 48 and 72 hours) significantly induces apoptosis of all CSC cultures[1].

MC1742 (0.025-0.5 μM; 14 days) enhances bone nodule formation in a significant dose-dependent manner[1].

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

Immunofluorescence

Cell Line:	Sarcoma cancer stem cells[1]
Concentration:	0.5 and 2 μM
Incubation Time:	24 hours
Result:	Increased acetylation in a dose-dependent manner, observable as punctuate nuclear staining of acetyl-histone H3.

Apoptosis Analysis

Cell Line:	Sarcoma cancer stem cells[1]
Concentration:	0.5, 1 and 2 μM
Incubation Time:	24, 48 and 72 hours
Result:	Significantly induced apoptosis of all CSC cultures.

Cell Differentiation Assay

Cell Line:	Sarcoma cancer stem cells[1]
Concentration:	0.025, 0.05, 0.1 and 0.5 μM
Incubation Time:	14 days
Result:	Successfully enhanced bone nodule formation in a significant dose-dependent manner.

REFERENCES

[1]. Di Pompo G, et al. Novel histone deacetylase inhibitors induce growth arrest, apoptosis, and differentiation in sarcoma cancer stem cells. J Med Chem. 2015;58(9):4073-4079.

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