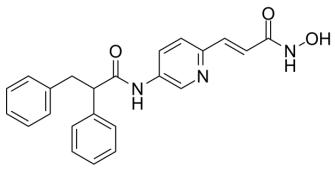
MC2625

Cat. No.:	HY-152225
CAS No.:	1776116-75-6
Molecular Formula:	$C_{23}H_{21}N_3O_3$
Molecular Weight:	387.43
Target:	HDAC; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Epigenetics; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

MC2625 is a potent pyridine-containing histone deacetylase (HDAC) inhibitor. MC2625 show selective HDAC3 and HDAC6 inhibition with IC_{50}s of 80 nM and 11 nM. MC2625 increases acetyl-H3 and acetyl-tubulin levels and inhibits cancer stem cells (CSCs) growth by apoptosis induction[1][2].

IC_{50} & Target

HDAC3 80 nM (IC_{50})	HDAC6 11 nM (IC_{50})	HDAC1 1.42 μM (IC_{50})	HDAC2 1.77 μM (IC_{50})
HDAC4 11.7 μM (IC_{50})	HDAC5 9.37 μM (IC_{50})	HDAC7 8.77 μM (IC_{50})	HDAC8 0.61 μM (IC_{50})
HDAC9 10.6 μM (IC_{50})	HDAC10 1.8 μM (IC_{50})	HDAC11 10.2 μM (IC_{50})	

In Vitro

MC2625 (0.5-2 μM; 24-72 h) has potent antiproliferative effect on different sarcoma CSCs (cancer stem cells) after 72 h[1].
MC2625 (0.5-2 μM; 48 h) significantly induces apoptosis of all CSC cultures, with the exception of A204 CSCs[1].
MC2625 (0.5, 2 μM; 24 h) causes a dose-dependent increase of acetyl-histone H3[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	Cancer stem cells (HOS, MG-63, RD, A204, SK-ES-1, A673)
Concentration:	0.5, 1, 2 μM
Incubation Time:	24, 48, 72 h
Result:	Significantly affected MG-63, RD, and SK-ES-1 viability in 0.5 μM, while all CSCs were sensitive at 1 and 2 μM.

Apoptosis Analysis[1]

Cell Line:	Cancer stem cells (HOS, MG-63, RD, A204, SK-ES-1, A673)
Concentration:	0.5, 1, 2 μM
Incubation Time:	48 h

Result:	Significantly induced apoptosis of all CSC cultures, with the exception of A204 CSCs. Generated an increase of the presence of apoptotic cells with concentrated dense granular fluorescence compared to untreated cells, especially at 1 and 2 μM.

Western Blot Analysis[1]

Cell Line:	MG-63 cancer stem cells
Concentration:	0.5, 2 μM
Incubation Time:	24 h
Result:	Caused a dose-dependent increase of acetyl-histone H3.

REFERENCES

[1]. Gemma Di Pompo, et al. Novel histone deacetylase inhibitors induce growth arrest, apoptosis, and differentiation in sarcoma cancer stem cells. J Med Chem. 2015 May 14;58(9):4073-9.

[2]. Elisabetta Di Bello, et al. Novel pyridine-containing histone deacetylase inhibitors strongly arrest proliferation, induce apoptosis and modulate miRNAs in cancer cells. Eur J Med Chem. 2022 Dec 15;247:115022.

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