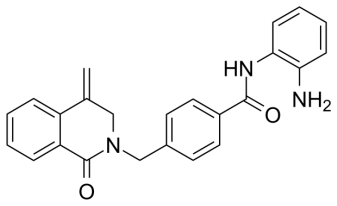
MI-192

Cat. No.:	HY-110264
CAS No.:	1415340-63-4
Molecular Formula:	$C_{24}H_{21}N_3O_2$
Molecular Weight:	383.44
Target:	HDAC; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Epigenetics; Apoptosis
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description

MI-192 is a selective HDAC2 and HDAC3 inhibitor with IC_{50}s of 30 nM and 16 nM, respectively. MI-192 is more selective for HDAC2/3 than other HDAC isomers.MI-192 induces myeloid leukaemic cells apoptosis. Anticaner and neuroprotective activities[1][2].

In Vitro

MI-192 (0.15-1 μM; 72 h) induces differentiation and is cytotoxic through promotion of apoptosis in acute myeloid leukaemic cell lines U937, HL60 and Kasumi-1[1].

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

Apoptosis Analysis[1]

Cell Line:	HL60 and Kasumi-1 cells
Concentration:	150 nM, 300 nM, 500 nM, 1 μM
Incubation Time:	72 h
Result:	Induced a substantial degree of apoptosis in both HL60 and Kasumi-1 cells.

In Vivo

MI-192 (40 mg/kg; i.p; once a day; for 3 days) shows the neuroprotective activity in the mouse brain subjected to photothrombotic stroke[2].

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

Animal Model:	Adult male outbred mice CD-1 (20-25 g) with photothrombotic stroke (PTS)[2]
Dosage:	40 mg/kg
Administration:	i.p; once a day; for 3 days
Result:	Reduced the volume of the PTS-induced infarction core in the mouse brain, partly restored the functional symmetry in the forelimb use, decreased the level of PTS-induced apoptosis and acetylation of α-tubulin characteristic for stable microtubules, and increased the expression of GAP-43 in the cerebral cortex of the damaged hemisphere.

REFERENCES

[1]. Marjorie Boissinot, et al. Induction of differentiation and apoptosis in leukaemic cell lines by the novel benzamide family histone deacetylase 2 and 3 inhibitor MI-192. Leuk Res. 2012 Oct;36(10):1304-10.

[2]. S V Demyanenko, et al. The Neuroprotective Effect of the HDAC2/3 Inhibitor MI192 on the Penumbra After Photothrombotic Stroke in the Mouse Brain. Mol Neurobiol. 2020 Jan;57(1):239-248.

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