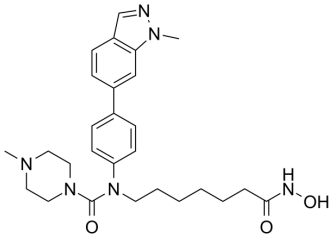
Alteminostat

Cat. No.:	HY-109109
CAS No.:	1246374-97-9
Molecular Formula:	$C_{27}H_{36}N_6O_3$
Molecular Weight:	492.61
Target:	HDAC; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Epigenetics; Apoptosis
Storage:	-20°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 230 mg/mL (466.90 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0300 mL	10.1500 mL	20.3000 mL
	5 mM	0.4060 mL	2.0300 mL	4.0600 mL
	10 mM	0.2030 mL	1.0150 mL	2.0300 mL

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

BIOLOGICAL ACTIVITY

Description

Alteminostat (CKD-581) is a potent HDAC inhibitor. Alteminostat inhibits the class I-II HDAC family via histone H3 and tubulin acetylation. Alteminostat can be used for lymphoma and multiple myeloma research[1].

In Vitro

Alteminostat (CKD-581; 1 nM-10 μM; 72 hours) treatment potently reduces cell viability in all four lymphoma cell lines in a concentration-dependent manner. The IC50 values of Alteminostat in SU-DHL-4, OCI-LY1, SU-DHL-2, and U2932 cells are 1.31 nM, 36.91 nM, 1.18 nM, and 31.99 nM, respectively[1].

Alteminostat (CKD-581; 10-300 nM; 24 hours) treatment decreases the expression of BCL-6 as well as BCL-2 in cells[1].

Alteminostat (CKD-581; 30-300 nM; 24 h) treatment results in γH2AX accumulation and PARP1 cleavage in SU-DHL-4, OCI-LY1, SU-DHL-2, and U2932 cells. Alteminostat decreases the protein levels of BCL-XL and MCL-1 in a concentration-dependent manner in OCI-LY1 cells[1].

Alteminostat (CKD-581; 10-300 nM; 6 hours) treatment increases the acetylation of histone H3 in SU-DHL-2 cells. And tubulin acetylation also increased with 10 nM CKD-581. CKD-581 increased the acetylation of target molecules by inhibiting class I-II HDACs in lymphoma cells[1].

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

Cell Viability Assay[1]

Cell Line:	SU-DHL-4, OCI-LY1, SU-DHL-2, and U2932 cells
Concentration:	1 nM-10 μM
Incubation Time:	72 hours
Result:	Potently reduced cell viability in all four lymphoma cell lines in a concentration-dependent manner.

Western Blot Analysis[1]

Cell Line:	SU-DHL-4 and OCI-LY1 cells
Concentration:	10 nM, 30 nM, 100 nM, 300 nM
Incubation Time:	24 hours
Result:	Decreased the expression of BCL-6 as well as BCL-2 in cells.

In Vivo

Alteminostat (CKD-581; 20-40 mg/kg; ntraperitoneal injection; twice a week; for 4 weeks) treatment partially but significantly suppresses tumor growth in SU-DHL-4 xenograft mice[1].

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

Animal Model:	Male NOD.CB17 SCID injected with SU-DHL-4 cells[1]
Dosage:	20 mg/kg or 40 mg/kg
Administration:	Intraperitoneal injection; twice a week; for 4 weeks
Result:	Partially but significantly suppressed tumor growth.

REFERENCES

[1]. Soo Jin Kim, et al. Anti-Cancer Effects of CKD-581, a Potent Histone Deacetylase Inhibitor against Diffuse Large B-Cell Lymphoma. Int J Mol Sci. 2020 Jun 19;21(12):4377.

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