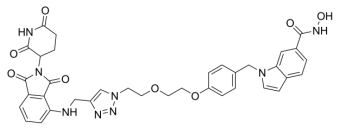
SZUH280

Cat. No.:	HY-152147
CAS No.:	2770263-77-7
Molecular Formula:	$C_{36}H_{34}N_8O_8$
Molecular Weight:	706.7
Target:	PROTACs; HDAC; Apoptosis; DNA/RNA Synthesis
Pathway:	PROTAC; Cell Cycle/DNA Damage; Epigenetics; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	SZUH280 is a potent and selective PROTAC HDAC8 degrader with a DC_{50} of 0.58 μM in A549 cells. SZUH280 induces cancer cell apoptosis. SZUH280 hampers DNA damage repair in cancer cells, promoting cellular radiosensitization[1].
IC_{50} & Target	HDAC8 0.58 μM (DC50)
In Vitro	HDAC8 degradation induced by SZUH280 (5 μM; 20 h) is mediated by the CRBN E3 ubiquitin ligase[1]. SZUH280 (0.1-10 μM; 20 h) can regulate the oncogenic protein expression and suppress cancer metastasis, potentially improving the efficacy of chemotherapy in various types of cancers[1]. SZUH280 (0-20 μM; 72 h) inhibits A549 cell proliferation in a concentration-dependent manner and shows stronger antiproliferative effect with irradiation[1]. SZUH280 (0-20 μM; 72 h) induces apoptosis and arrests cell cycle at G2/M phase in A549 cells[1]. SZUH280 (5 μM; 24 h) hampers DNA damage repair in cancer cells when in combination with irradiation[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	A549, HCT116, HeLa and MDA-MB-231 cells
Concentration:	0.1, 0.3, 1, 3 and 10 μM
Incubation Time:	20 h
Result:	Efficiently induced HDAC8 degradation in a concentration-dependent manner in A549, HCT116 and HeLa cells. Reduced the IKZF1 protein levels to a lesser extent at 10 μM in A549 cells. Decreased PGM1 expression during glucose deprivation conditions in A549 cells. Decreased SMAD3 and HDAC8 protein levels in MDA-MB-231 cells.

Cell Proliferation Assay[1]

Cell Line:	A549 cells
Concentration:	2.5, 5, 10 and 20 μM
Incubation Time:	72 h

Result:	Effectively inhibited cell proliferation in a concentration-dependent manner with an IC_{50} of 9.55 μM. Co-treatment with irradiation exhibited an even stronger antiproliferative effect (with an IC_{50} value of about 6.04 μM).

Apoptosis Analysis[1]

Cell Line:	A549 cells
Concentration:	1.25, 2.5, 5, 10 and 20 μM
Incubation Time:	72 h
Result:	Effectively induced apoptosis in a dose-dependent manner.

Cell Cycle Analysis[1]

Cell Line:	A549 cells
Concentration:	1.25, 2.5, 5, 10 and 20 μM
Incubation Time:	72 h
Result:	Induced cell cycle arrest at the G2/M phase.

In Vivo

SZUH280 (5 mg/kg; i.p.; every 5 days for 6 weeks) shows antitumor activity in an A549 nude mouse model[1].

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Animal Model:	NOD/SCID mice (severe combined immunodeficient mice), A549 model[1]
Dosage:	5 mg/kg
Administration:	Intraperitoneal injection, every 5 days for 6 weeks
Result:	Exhibited a significantly greater anti-lung cancer activity in vivo than the control group. When in combination with 3 Gy irradiation, achieved a much stronger antitumor activity.

REFERENCES

[1]. Huang J, et al. Structure-Based Discovery of Selective Histone Deacetylase 8 Degraders with Potent Anticancer Activity. J Med Chem. 2022 Dec 14.

Caution: Product has not been fully validated for medical applications. For research use only.

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