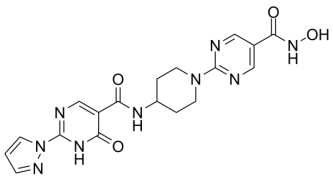
PHD2/HDACs-IN-1

Cat. No.:	HY-144332
CAS No.:	2339867-53-5
Molecular Formula:	$C_{18}H_{19}N_9O_4$
Molecular Weight:	425.4
Target:	HDAC; HIF/HIF Prolyl-Hydroxylase
Pathway:	Cell Cycle/DNA Damage; Epigenetics; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

PHD2/HDACs-IN-1 is a potent PHD2/HDACs hybrid inhibitor (IC_{50}s of 1.15 μM, 19.75 μM, 26.60 μM and 15.98 μM for PHD2, HDAC1, HDAC2 and HDAC6, respectively). PHD2/HDACs-IN-1 is a low-toxicity renoprotective agent for research of cisplatin-induced acute kidney injury (AKI)[1].

IC_{50} & Target

HDAC1	HDAC2	HDAC6	PHD2
19.75 μM (IC_{50})	26.60 μM (IC_{50})	15.98 μM (IC_{50})	1.15 μM (IC_{50})

In Vitro

PHD2/HDACs-IN-1 (compound 31c) (50 μM; 24 hours) and cisplatin co-treatment can further downregulate the MCF7 and A549 cell viability compared to the treatment of cisplatin alone[1].
PHD2/HDACs-IN-1 (0.78-100 μM; 24 hours) has no evident inhibitions on HK-2 cell viabilities up to 100 μM dosing[1].
PHD2/HDACs-IN-1 (50 μM; 24 hours) not only has potent protective activity against cisplatin-induced inhibition for normal renal tubule epithelial cells without observable toxicities[1].

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

Cell Viability Assay

Cell Line:	MCF7 and A549[1]
Concentration:	50 μM
Incubation Time:	24 hours
Result:	The combination treatment of PHD2/HDACs-IN-1 and cisplatin could further downregulate the MCF7 and A549 cell viability compared to the treatment of cisplatin alone.

Cell Viability Assay

Cell Line:	HK-2 cells[1]
Concentration:	0.78-100 μM
Incubation Time:	24 hours
Result:	No evident inhibitions on HK-2 cell viabilities up to 100 μM dosing.

In Vivo

PHD2/HDACs-IN-1 (10 mg/kg/day; i.p.; 2 days) has significant renal protecting effects on alleviating pathological injuries with

considerably decreased tubular injury scores[1].

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

Animal Model:	Male C57BL/6 mice (8 weeks; n=5) (Cisplatin-induced AKI)[1]
Dosage:	10 mg/kg/day
Administration:	i.p., 2 days
Result:	Showed significant renal protecting effects on alleviating pathological injuries with considerably decreased tubular injury scores.

REFERENCES

[1]. Wei H, et al. Novel PHD2/HDACs hybrid inhibitors protect against cisplatin-induced acute kidney injury. Eur J Med Chem. 2022;230:114115.

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