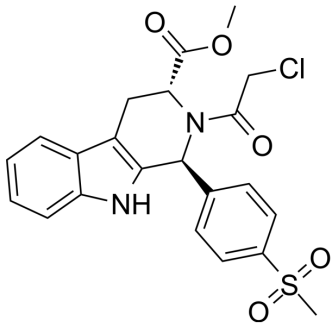
GPX4-IN-4

Cat. No.:	HY-149923
CAS No.:	2920221-53-8
Molecular Formula:	$C_{22}H_{21}ClN_2O_5S$
Molecular Weight:	460.93
Target:	Glutathione Peroxidase
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	GPX4-IN-4 (Compound 24) is a potent GPX4 inhibitor. GPX4-IN-4 can be used for the research of cancer[1].
IC_{50} & Target	GPX4[1]
In Vitro	GPX4-IN-4 (Compound 24; 0-1000 nM; 0-24 h) inhibits HT1080 cell viability in a concentration- and time- dependent manner [1]. GPX4-IN-4 (0-10 μM; 72 h) inhibits NCI-H1703 cell viability with EC_{50}s of 0.117 μM and 4.74 μM without and with Fer-1 (HY-100579), respectively[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	HT1080 (GPX4 dependent) cells
Concentration:	0-1000 nM
Incubation Time:	0, 1.5, 3, 6 and 24 h
Result:	Inhibited cell viability with EC_{50}s of 0.85, 0.27, 0.17 and 0.09 μM at 1.5, 3, 6 and 24 h, respectively.

Cell Viability Assay[1]

Cell Line:	NCI-H1703
Concentration:	0-10 μM
Incubation Time:	72 h
Result:	Inhibited cell viability with EC_{50}s of 0.117 μM and 4.74 μM without and with Fer-1, respectively.

In Vivo	GPX4-IN-4 (Compound 24; 100 and 200 mg/kg; i.p.; once) engages kidney GPX4 and induces PD markers in mice[1]. GPX4-IN-4 (50 mg/kg; i.p.; daily for 20 days) has no effect on WSU-DLCL2 tumor growth in mice, although partial target engagement is observed in tumor homogenate[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	SCID/Beige mice[1]
Dosage:	100 and 200 mg/kg
Administration:	IP, once
Result:	The GPX4 band was shifted. Engaged kidney GPX4 and induced PD markers.

Animal Model:	SCID/Beige mice[1]
Dosage:	30 and 100 mg/kg
Administration:	IP (Pharmacokinetic Analysis)
Result:	PK Properties of GPX4-IN-4 (Compound 24)[1]

Dose	$t_{1/2}$ (h)	C_{max} (μg/mL)	AUC (μg*h/mL)
30 (IP)	0.5	0.92 (±0.24)	1.89 (±0.17)
100 (IP)	1.7	5.31 (±0.53)	16.20 (±1.70)

REFERENCES

[1]. Randolph JT, et al. Discovery of a Potent Chloroacetamide GPX4 Inhibitor with Bioavailability to Enable Target Engagement in Mice, a Potential Tool Compound for Inducing Ferroptosis In Vivo. J Med Chem. 2023 Mar 23;66(6):3852-3865.

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

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