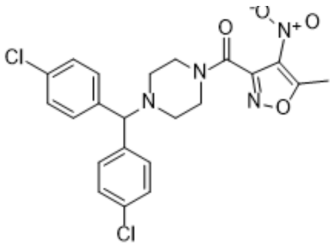
ML-210

Cat. No.:	HY-100003
CAS No.:	1360705-96-9
Molecular Formula:	$C_{22}H_{20}Cl_2N_4O_4$
Molecular Weight:	475.32
Target:	Glutathione Peroxidase; Ferroptosis
Pathway:	Apoptosis; Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (52.60 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1038 mL	10.5192 mL	21.0385 mL
	5 mM	0.4208 mL	2.1038 mL	4.2077 mL
	10 mM	0.2104 mL	1.0519 mL	2.1038 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.5 mg/mL (5.26 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.38 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ML-210 is a selective and covalent glutathione peroxidase 4 (GPX4) inhibitor with an EC_{50} of 30 nM. ML-210 binds the GPX4 selenocysteine residue. ML-210 has anti-cancer activity[1][2].

IC_{50} & Target

Glutathione Peroxidase 4 (GPX4)[1]

In Vitro

ML-210 exhibits cell-killing activity across a panel of 821 cancer cell lines (WM88, LOX-IMVI, CJM, U257, CAKI2, A498, HT1080, MC38, PANC02). ML-210 is a prodrug that requires cellular activation to bind GPX4[1].
ML-210 has IC_{50}s of 71 nM, 272 nM and 107nM for BJeLR ($HRAS_{V12}$), BJeH-LT (without $HRAS_{V12}$) and DRD cell lines, respectively[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Discov. 2022 May 3;8(1):40.
- Nat Chem Biol. 2024 Jan 11.
- Small. 2021 Oct 8;e2103919.
- Cell Mol Life Sci. 2024 Jan 22;81(1):49.
- Am J Cancer Res. 2023 Feb 28.

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REFERENCES

[1]. John K. Eaton, et al. Targeting a Therapy-Resistant Cancer Cell State Using Masked Electrophiles as GPX4 Inhibitors. Biorxiv. 2018.

[2]. Weïwer M, et al. Development of small-molecule probes that selectively kill cells induced to express mutant RAS. Bioorg Med Chem Lett. 2012 Feb 15;22(4):1822-6.

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