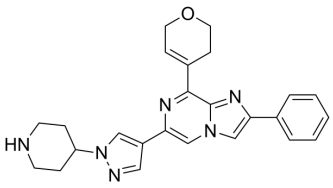
YL-939

Cat. No.:	HY-152093
Molecular Formula:	$C_{25}H_{26}N_6O$
Molecular Weight:	426.51
Target:	Ferroptosis
Pathway:	Apoptosis
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (234.46 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3446 mL	11.7231 mL	23.4461 mL
	5 mM	0.4689 mL	2.3446 mL	4.6892 mL
	10 mM	0.2345 mL	1.1723 mL	2.3446 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 (5.86 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

YL-939 is a potent ferroptosis inhibitor. YL-939 inhibits ferroptosis by targeting the PHB2/ferritin/iron axis[1].

In Vitro

YL-939 (0.01-10 μM) efficiently protects cells from ferroptosis with IC_{50} values of 0.14 μM, 0.25 μM, 0.16 μM, 0.16 μM and 0.24 μM for HT-1080, Miapaca-2, Calu-1, HCT116 and SHSY5Y cells, respectively[1].
YL-939 (5 μM; 10 h; ES-2 cells) reduces the level of ROS in cytosolic, membrane lipids[1].
YL-939 (5 μM; 1-10 h; ES-2 cells) has a biological target of PHB2[1].
YL-939 (3 μM; 10 h; ES-2 cells) improves ferritin protein expression in a concentration-dependent manner and blocks autophagosomes/lysosomes, and hence inhibited ferritinophagy[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	ES-2 cells

Concentration:	5 μM
Incubation Time:	1, 5, 7.5, and 10 hours
Result:	Pulled down PHB2 protein by the probe.

Western Blot Analysis[1]

Cell Line:	ES-2 cells
Concentration:	3 μM
Incubation Time:	10 hours
Result:	Increased the expression of nuclear receptor coactivator 4 (NCOA4) in a dose-dependent manner.

In Vivo

YL-939 (3 mg/kg; i.p.; single injection) ameliorates liver damage in an Acetaminophen (APAP)-induced acute liver injury mode[1]l.

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

Animal Model:	Acetaminophen (APAP)-induced male C57BL/6J mouse[1]
Dosage:	3 mg/kg
Administration:	Intraperitoneal injection; single injection
Result:	Inhibited the cell death and inflammatory infiltration in the liver tissues of male C57BL/J6 mice that received APAP.

REFERENCES

[1]. Yang W, et, al. Non-classical ferroptosis inhibition by a small molecule targeting PHB2. Nat Commun. 2022 Dec 3;13(1):7473.

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