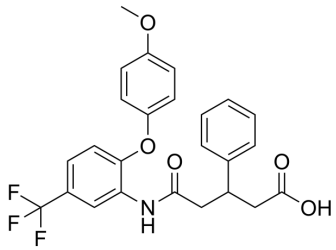
84-B10

Cat. No.:	HY-44307
CAS No.:	698346-43-9
Molecular Formula:	$C_{25}H_{22}F_3NO_5$
Molecular Weight:	473.44
Target:	Ferroptosis
Pathway:	Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (211.22 mM; ultrasonic and warming and heat to 60°C)

H_2O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1122 mL	10.5610 mL	21.1220 mL
	5 mM	0.4224 mL	2.1122 mL	4.2244 mL
	10 mM	0.2112 mL	1.0561 mL	2.1122 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: ≥ 1.25 mg/mL (2.64 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.25 mg/mL (2.64 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.25 mg/mL (2.64 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

84-B10 is a 3-phenylglutaric acid derivative. 84-B10 inhibits cisplatin (HY-17394) induced tubular ferroptosis. 84-B10 attenuates cisplatin-induced mitochondrial damage and oxidative stress. 84-B10 ameliorates cisplatin-induced acute kidney injury (AKI)[1].

In Vitro

84-B10 (10-100 μM; 2 h) inhibits cisplatin-induced tubular epithelial cell ferroptosis in a dose-dependent manner[1].
84-B10 (40 μM; 2 h; TKPT cells) restores cisplatin-induced mitochondrial structural damage and dysfunction[1].

84-B10 (40 μM; 2 h; TKPT cells) attenuates mtROS-induced oxidative stress in cisplatin-induced AKI[1].
84-B10 (40 μM; 2 h; TKPT cells) attenuates cisplatin-induced epithelial cell injury by eliminating mtROS and restoring mitochondrial homeostasis[1].

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

Western Blot Analysis[1]

Cell Line:	tubular epithelial cell
Concentration:	10, 20, 30, 40, 50, and 100 μM
Incubation Time:	2 hours
Result:	Increased the levels of NRF2, SLC7A11, and GPX4 in a dose-dependent manner.

Western Blot Analysis[1]

Cell Line:	TKPT cells
Concentration:	40 μM
Incubation Time:	2 hours
Result:	Increased the levels of OM Porins, IMS Cyt c, IM CVa, IM Core 1, and Matrix CypD in a dose-dependent manner.

In Vivo

84-B10 (5-15 mg/kg; i.p.) alleviates cisplatin-induced acute kidney injury in mice[1].

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

Animal Model:	Male C57BL/6 mice with acute kidney injury[1]
Dosage:	5, 10, and 15 mg/kg
Administration:	intraperitoneal injection
Result:	Decreased the sCr and BUN levels of cisplatin-exposed mice. Attenuated renal tubules morphological abnormalities in a dose-dependent manner. Decreased NGAL and KIM-1 levels in a dose-dependent manner. Decreased the transcription levels of Lcn2 (which encodes NGAL) and Havcr1.

REFERENCES

[1]. Fan J, et, al. A novel 3-phenylglutaric acid derivative (84-B10) alleviates cisplatin-induced acute kidney injury by inhibiting mitochondrial oxidative stress-mediated ferroptosis. Free Radic Biol Med. 2023 Jan;194:84-98.

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