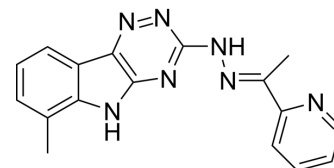


VLX600

Cat. No.:	HY-12406
CAS No.:	327031-55-0
Molecular Formula:	C ₁₇ H ₁₅ N ₇
Molecular Weight:	317.35
Target:	Autophagy; Mitochondrial Metabolism; Oxidative Phosphorylation
Pathway:	Autophagy; Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years



* The compound is unstable in solutions, freshly prepared is recommended.

SOLVENT & SOLUBILITY

In Vitro	DMSO : 25 mg/mL (78.78 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	Preparing Stock Solutions		1 mg	5 mg	10 mg
		1 mM	3.1511 mL	15.7555 mL	31.5110 mL
		5 mM	0.6302 mL	3.1511 mL	6.3022 mL
	10 mM	0.3151 mL	1.5755 mL	3.1511 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: 2.08 mg/mL (6.55 mM); Clear solution; Need ultrasonic				

BIOLOGICAL ACTIVITY

Description	VLX600 is an iron-chelating inhibitor of oxidative phosphorylation (OXPHOS). VLX600 causes mitochondrial dysfunction and induces a strong shift to glycolysis. VLX600 displays selective cytotoxic activity against malignant cell and induces autophagy. Anticancer activity ^{[1][2]} .
In Vitro	VLX600 (6 μM; 72 hours) induces an autophagic response ^[2] . VLX600 is cytotoxic to HCT116 spheroids. VLX600 induces a HIF-1α-dependent glycolytic response. VLX600 inhibits oxygen consumption in HCT116 cells. VLX600 inhibits phosphorylation of the mTOR downstream effectors 4EBP1 and p70-S6K by an HIF-1α-independent mechanism. VLX600 preferentially leads to decreased ATP levels in cancer but not normal cells ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only. Cell Proliferation Assay ^[2]
	Cell Line:

	Concentration:	0.1, 1, 10, 100µM
	Incubation Time:	72 hours
	Result:	Inhibited the proliferation of these cells.
	Western Blot Analysis ^[2]	
	Cell Line:	HCT116 cells
	Concentration:	6 µM
	Incubation Time:	72 hours
	Result:	LC3-II was induced.
In Vivo	VLX600 (16 mg/kg; i.v.; every third day for 16 days) shows anti-tumor activity in human tumor xenografts ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	NMRI nu/nu mice (HCT116 and HT29 colon cancer xenografts) ^[2]
	Dosage:	16 mg/kg
	Administration:	Intravenously; every third day for 16 days
	Result:	Anti-tumor activity was observed in both HCT116 and HT29 colon cancer xenografts.

REFERENCES

[1]. Karlsson H, et al. A novel tumor spheroid model identifies selective enhancement of radiation by an inhibitor of oxidative phosphorylation. *Oncotarget*. 2019 Sep 3;10(51):5372-5382.

[2]. Zhang X, et al. Induction of mitochondrial dysfunction as a strategy for targeting tumour cells in metabolically compromised microenvironments. *Nat Commun*. 2014;5:3295.

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

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