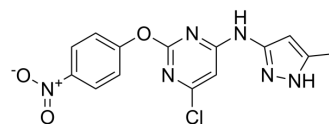


Autophinib

Cat. No.:	HY-101920		
CAS No.:	1644443-47-9		
Molecular Formula:	C ₁₄ H ₁₁ ClN ₆ O ₃		
Molecular Weight:	346.73		
Target:	Autophagy; PI3K		
Pathway:	Autophagy; PI3K/Akt/mTOR		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	1 year
		-20°C	6 months



SOLVENT & SOLUBILITY

In Vitro	DMSO : 6.67 mg/mL (19.24 mM; ultrasonic and warming and heat to 60°C)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	2.8841 mL	14.4204 mL	28.8409 mL
		5 mM	0.5768 mL	2.8841 mL	5.7682 mL
10 mM		0.2884 mL	1.4420 mL	2.8841 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 0.5 mg/mL (1.44 mM); Suspended solution; Need ultrasonic Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 0.5 mg/mL (1.44 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	Autophinib is a potent, selective autophagy inhibitor with IC ₅₀ s of 90 nM and 40 nM for starvation- and Rapamycin-induced autophagy, respectively. Autophinib is also an ATP competitive Vacuolar Protein Sorting 34 (VPS34) inhibitor with an IC ₅₀ of 19 nM. Autophinib inhibits autophagy induced by starvation or Rapamycin by targeting VPS34 ^[1] .
IC ₅₀ & Target	Vps34 19 nM (IC ₅₀)
In Vitro	Autophinib (0.01-1 μM) inhibits LC3 lipidation to form LC3-II in a dose-dependent manner in starved MCF7-LC3 cells. Consistent with inhibition of autophagic flux, Autophinib also inhibits p62 degradation by autophagy dose-dependently in MCF7-LC3 cells ^[1] .

Autophinib enhances cell death (EC₅₀ of 264 nM) of starved cells as compared to fed cells, which occurred via the induction of apoptosis (EC₅₀ of 234 nM) in MCF7 cells^[1].

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

CUSTOMER VALIDATION

- J Extracell Vesicles. 2023 Apr;12(4):e12319.
- Cell Death Dis. 2022 Aug 18;13(8):721.
- Cell Death Dis. 2019 Jan 17;10(2):41.
- Cancer Sci. 2020 May; 111(5): 1542-1554.
- Fish Shellfish Immunol. 2023 Nov 15:143:109214.

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REFERENCES

[1]. Robke L, et al. Phenotypic Identification of a Novel Autophagy Inhibitor Chemotype Targeting Lipid Kinase VPS34. Angew Chem Int Ed Engl. 2017 Jul 3;56(28):8153-8157.

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

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