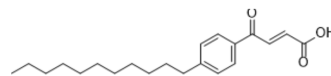


Atg4B-IN-2

Cat. No.:	HY-144636		
CAS No.:	2765008-88-4		
Molecular Formula:	C ₂₁ H ₃₀ O ₃		
Molecular Weight:	330.46		
Target:	Cathepsin; Phospholipase; Autophagy; Atg4		
Pathway:	Metabolic Enzyme/Protease; Autophagy		
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 (302.61 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.0261 mL	15.1304 mL	30.2609 mL
	5 mM	0.6052 mL	3.0261 mL	6.0522 mL
	10 mM	0.3026 mL	1.5130 mL	3.0261 mL

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

BIOLOGICAL ACTIVITY

Description

Atg4B-IN-2 is a potent competitive Atg4B inhibitor with K_i value of 3.1 μM, also possesses declining PLA₂ inhibitory potency, IC₅₀s of 11 μM and 3.5 μM for Atg4B and PLA₂, respectively. Atg4B-IN-2 enhances the anticancer activity of anti-castration-resistant prostate cancer agents via autophagy inhibition^[1].

IC₅₀ & Target

IC₅₀: 11 μM (Atg4B), 3.5 μM (PLA₂)^[1]
K_i: 3.1 μM (Atg4B)^[1]

In Vitro

Atg4B-IN-2 (compound 21f) (1-10 μM; 2 hours) restores the p62 expression in cells treated with AF (amino acid-free) in a dose-dependent manner^[1].
Atg4B-IN-2 (1 and 5 μM; 2 hours) decreases moderately autophagic vesicles at 1 μM, and almost completely inhibits autophagy at 5 μM^[1].
Atg4B-IN-2 (5 μM; 2 hours) inhibits Abi-induced autophagy and significantly augments apoptotic cell death and sensitivity to Abi^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Western Blot Analysis

Cell Line:	LNCaP cells (incubated in AF medium) ^[1]
Concentration:	1, 2, 5, 10 μ M
Incubation Time:	2 hours (then incubated in AFM for 24 or 3 hours)
Result:	Restored the p62 expression in cells treated with AF in a dose-dependent manner.

Cell Autophagy Assay

Cell Line:	LNCaP cells (incubated in AF medium) ^[1]
Concentration:	1 and 5 μ M
Incubation Time:	2 hours (then incubated in AFM for 24 or 3 hours)
Result:	Decreased moderately autophagic vesicles at 1 μ M, and almost completely inhibited autophagy at 5 μ M.

REFERENCES

[1]. Kudo Y, Endo S, Fujita M, et al. Discovery and Structure-Based Optimization of Novel Atg4B Inhibitors for the Treatment of Castration-Resistant Prostate Cancer. J Med Chem. 2022;65(6):4878-4892.

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

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