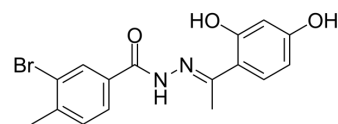


mTOR inhibitor-1

Cat. No.:	HY-112914		
CAS No.:	468747-17-3		
Molecular Formula:	C ₁₆ H ₁₅ BrN ₂ O ₃		
Molecular Weight:	363.21		
Target:	mTOR; Autophagy		
Pathway:	PI3K/Akt/mTOR; Autophagy		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro	DMSO : 83.33 mg/mL (229.43 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	2.7532 mL	13.7661 mL	27.5323 mL
		5 mM	0.5506 mL	2.7532 mL	5.5065 mL
10 mM		0.2753 mL	1.3766 mL	2.7532 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: ≥ 2.08 mg/mL (5.73 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (5.73 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (5.73 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	mTOR inhibitor-1 (Compound C-4) is an ATP-Competitive mTOR inhibitor which can suppress cells proliferation and inducing autophagy ^[1] .
IC ₅₀ & Target	mTOR ^[1]
In Vitro	mTOR inhibitor-1 (48 h) inhibits proliferation of A549 cells (IC ₅₀ : 3.176 μM), and delays S phase progression ^[1] . mTOR inhibitor-1 (0-12.8 μg/mL, 24 h) decreases the level of activated mTOR (p-mTOR ^{ser2448}) in A549 cells ^[1] .

mTOR inhibitor-1 (3.6 µg/mL, 24 h) induces autophagosomes production in the cytoplasm of A549 cells, and accumulates LC3 puncta^[1].

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

CUSTOMER VALIDATION

- J Am Soc Nephrol. 2021 Nov 1;ASN.2020121753.
- Front Pharmacol. 2020 Nov 11;11:580407.
- J Ovarian Res. 2022 Mar 17;15(1):34.

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REFERENCES

[1]. Liu J, et al. In Silico Discovery of a Small Molecule Suppressing Lung Carcinoma A549 Cells Proliferation and Inducing Autophagy via mTOR Pathway Inhibition. Mol Pharm. 2018 Nov 5;15(11):5427-5436.

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

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