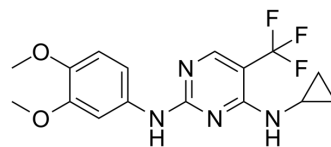


SBP-7455

Cat. No.:	HY-137742		
CAS No.:	1884222-74-5		
Molecular Formula:	C ₁₆ H ₁₇ F ₃ N ₄ O ₂		
Molecular Weight:	354.33		
Target:	ULK; Autophagy		
Pathway:	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 : 125 mg/mL (352.78 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	2.8222 mL	14.1111 mL	28.2223 mL
		5 mM	0.5644 mL	2.8222 mL	5.6445 mL
10 mM		0.2822 mL	1.4111 mL	2.8222 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 (5.87 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (5.87 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	SBP-7455 is a potent, high affinity and orally active dual ULK1/ULK2 autophagy inhibitor with IC ₅₀ s of 13 nM and 476 nM in the ADP-Glo assays, respectively. SBP-7455 potently inhibits ULK1/2 enzymatic activity and can be used for triple-negative breast cancer (TNBC) research ^[1] .	
IC ₅₀ & Target	ULK1 13 nM (IC ₅₀)	ULK2 476 nM (IC ₅₀)
In Vitro	SBP-7455 (compound 26; 72 h) treatment inhibits cell growth with an IC ₅₀ of 0.3 μM for MDA-MB-468 cells. SBP-7455 inhibits starvation-induced autophagic flux in TNBC cells that are dependent on autophagy for survival ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

In Vivo

A single dose of SBP-7455 (compound 26) (30 mg/kg) is orally administered to mice. The T_{max} for SBP-7455 is approximately 1 h, the C_{max} is 990 nM and the $T_{1/2}$ is 1.7 h. The plasma concentration of SBP-7455 remains above the ULK1 IC_{50} for almost 4 h after oral dosing^[1].

The mice are dosed with SBP-7455 (compound 26) (10 mg/kg) by oral gavage, and liver samples were collected after 2 h. The results reveals robust inhibition of pATG13 (Ser318), as well as downregulation of total ATG13 and ULK1 levels by SBP-7455^[1].

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

REFERENCES

[1]. Huiyu Ren, et al. Design, Synthesis, and Characterization of an Orally Active Dual-Specific ULK1/2 Autophagy Inhibitor that Synergizes with the PARP Inhibitor Olaparib for the Treatment of Triple-Negative Breast Cancer. *J Med Chem.* 2020 Dec 10;63(23):1460

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

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