# SBP-7455

**Cat. No.:** HY-137742

**CAS No.:** 1884222-74-5

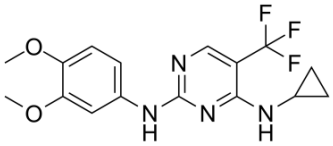
**Molecular Formula:** $C_{16}H_{17}F_3N_4O_2$

**Molecular Weight:** 354.33

**Target:** ULK; Autophagy

**Pathway:** Autophagy

**Storage:** Please store the product under the recommended conditions in the Certificate of Analysis.



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 125 mg/mL (352.78 mM; Need ultrasonic)

$H_2O$ : < 0.1 mg/mL (insoluble)

| Preparing Stock Solutions | Mass / Solvent / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 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 | ULK2 |
|---|---|
| 13 nM ($IC_{50}$) | 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].<br>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].<br>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):14609-14625



Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA