STK16-IN-1

Cat. No.: HY-101270

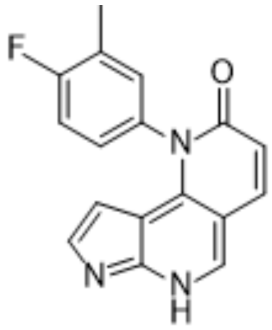
CAS No.: 1223001-53-3

Molecular Formula: $C_{17}H_{12}FN_3O$

Molecular Weight: 293.3

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 : 15 mg/mL (51.14 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.4095 mL	17.0474 mL	34.0948 mL
	5 mM	0.6819 mL	3.4095 mL	6.8190 mL
	10 mM	0.3409 mL	1.7047 mL	3.4095 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: ≥ 2.5 mg/mL (8.52 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.52 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

STK16-IN-1 is a STK16 kinase inhibitor with an IC_{50} of 295 nM.

IC_{50} & Target

IC50: 295 nM (STK16)[1]

In Vitro

STK16-IN-1, which exhibits potent inhibitory activity against STK16 kinase (IC_{50}=0.295 μM) with excellent selective across the kinome as assessed using the KinomeScanTM profiling assay. STK16-IN-1 inhibits mTOR kinase with an IC_{50} of 5.56 μM. In MCF-7 cells, treatment with STK16-IN-1 results in a reduction in cell number and accumulation of binucleated cells, which can be recapitulated by RNAi knockdown of STK16. Co-treatment of STK16-IN-1 with chemotherapeutics such as cisplatin, doxorubicin, colchicine and paclitaxel results in a slight potentiation of the anti-proliferative effects of the chemotherapeutics. STK16-IN-1 provides a useful tool compound for further elucidating the biological functions of STK16)[1]
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MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Kinase Assay [1]	STK16-IN-1 is generally prepared with 1:3 serial dilutions for 4 concentrations (100 nM, 50 nM, 20 nM, and 10 nM); 6 concentrations are used (1 mM to 10 μM) for ATP competition experiments. The kinase reaction is performed with 1×kinase reaction buffer. Reactions in each well are started immediately by adding ATP and kept going for half an hour under 37°C. After the plate cooled for 5 minutes at room temperature, 5 μL of ADP-Glo reagent is added into each well to stop the reaction and consume the remaining ADP within 40 minutes. At the end, 10 μL of kinase detection reagent is added into the well and incubated for 1 hour to produce a luminescence signal[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Cell Assay [1]	MCF-7, HCT116, HeLa cells are treated with STK16-IN-1 (0, 5, 10 μM) for 72 hours and apoptotic cells are analyzed by flow cytometry using Annexin V/PI apoptosis detection kit[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Antiviral Res. 2022 Jun 20;105367.
- iScience. 2023 Mar.

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