

SF1670

Chemical Properties

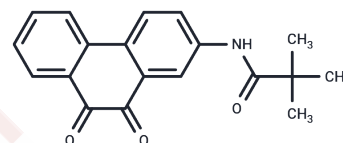
CAS No. : 345630-40-2

Formula: C₁₉H₁₇NO₃

Molecular Weight: 307.34

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year



Biological Description

Description	SF1670 (PTPase CD45 Inhibitor) is a specific PTEN inhibitor with IC ₅₀ of 2 μM.
Targets(IC ₅₀)	PTEN,Autophagy,Phosphatase
In vitro	SF1670 shows potent cytotoxicity in HBEC, PC-3, H1299 cells with IC ₅₀ of 5 μM, 10 μM, 44 μM, respectively. In a mouse aortic ring matrigel angiogenesis model, SF1670 stimulates the angiogenic processes. [1] SF1670 augments chemoattractant-elicited PtdIns(3,4,5)P ₃ signaling in neutrophils and enhances neutrophil functions. [2]
In vivo	Pretreatment of SF1670 (500 nM i.v.) augments bacteria-killing capability in neutropenic mice in both peritonitis and bacterial pneumonia, and decreases the mortality of neutropenia-related pneumonia. [2]
Kinase Assay	PTEN Inhibition Assay: To determine the dose response of potential PTEN inhibitors, doses of test compounds ranging from 1 nM to 250 μM (final reaction mix concentrations) are evaluated in the general PTEN inhibition assay. To obtain performed IC ₅₀ data, two separate rounds of the dose response assay are performed. In the first round, PTEN activity is tested in the presence of inhibitor at 10 fold serial dilutions ranging from 1 nM to 250 μM. Once the concentration range is determined, at which PTEN activity changes dramatically, two additional concentration data points within this range are added and the PTEN inhibition assay is then rerun for the second round. The PTEN inhibition IC ₅₀ is presented as the inhibitor concentration at which 50% of the PTEN activity. When the assay was run on multiple occasions and gave slightly different IC ₅₀ then those are reported as a range of IC ₅₀ found.
Cell Research	Cells are plated into 96-well plates in RPMI 1640 medium supplemented with 10% FBS and incubated overnight at 37°C. in an incubator containing an atmosphere of 5% CO ₂ . The following day, the medium is replaced and cells are starved by placing in 100 μL of serum-free medium for 3 hours. Serially diluted test compounds are added to the wells and incubated with the cells for 2 hours at 37°C. Compounds are tested in a range from 1 mM to 0.1 nM depending on solubility. MTT is added to the wells at a final concentration of 5 μg/ml and incubated with the cells for 3 more hours. At the end of the incubation, the medium is aspirated and the MTT stain in the cells is dissolved by the addition of 100 μL DMSO. Optical density of each well is then measured at 570 nm using a SpectroMax Plus spectrophotometric plate reader. The IC ₅₀ determination from the data was made using Prism software.(Only for Reference)

Solubility Information

Solubility	DMSO: 30.7 mg/mL (99.89 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2537 mL	16.2686 mL	32.5373 mL
5 mM	0.6507 mL	3.2537 mL	6.5075 mL
10 mM	0.3254 mL	1.6269 mL	3.2537 mL
50 mM	0.0651 mL	0.3254 mL	0.6507 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Garlich JR, et al. PCT/US2005/011626.

Lian Z, Hu Z, Xian H, et al. Exosomes derived from normal human bronchial epithelial cells down-regulate proliferation and migration of hydroquinone-transformed malignant recipient cells via up-regulating PTEN expression. Chemosphere. 2020, 244: 125496

Li Y, et al. Blood. 2011, 17(24), 6702-6713.

Lian Z, Hu Z, Xian H, et al. Exosomes derived from normal human bronchial epithelial cells down-regulate proliferation and migration of hydroquinone-transformed malignant recipient cells via up-regulating PTEN expression[J]. Chemosphere. 2020, 244: 125496

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Tel:781-999-4286 E_mail:info@targetmol.com Address:36 Washington Street,Wellesley Hills,MA 02481