

NCT-504

Chemical Properties

CAS No. : 1222765-97-0

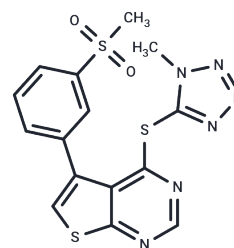
Formula: C₁₅H₁₂N₆O₂S₃

Molecular Weight: 404.49

Keep away from direct sunlight

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

Actual storage temperature shall be subject to the COA.



Biological Description

Description	NCT-504, a selective allosteric inhibitor of PIP4Ky, exhibits an IC ₅₀ value of 15.8 μM. It holds promise for the investigation of Huntington's disease.
Targets(IC ₅₀)	Others,PI3K
In vitro	NCT-504 does not affect the intrinsic ATP-hydrolytic activity of PIP4Ky in the absence of the PI5P substrate and does not inhibit PIP4Kbeta, while only weakly inhibiting PIP4Kalpha's phosphorylation of PI5P, all confirmed at a concentration of 50 μM. Despite this specificity, NCT-504 notably increases levels of PI(3,5)P ₂ , PI3P, and PI5P in mouse embryonic fibroblasts (MEFs) and enhances autophagy by inducing both autophagy initiation and the turnover rate of autophagic cargo without impairing MEF cell viability, even at concentrations of up to 10 μM over 12 hours. Furthermore, NCT-504 leads to a significant increase in autolysosome formation with a slight increase in autophagosomes, boosts autophagy flux, and decreases huntingtin protein levels in 293A cells. Additionally, it lowers mutant huntingtin (mHtt) protein levels in immortalized striatal cells from knock-in Huntington's disease (HD) mice. Western blot analysis on HEK293T cells treated with 5 and 10 μM of NCT-504 for 2 and 6 hours corroborated these findings, revealing induced autophagosome formation.

Solubility Information

Solubility	DMSO: 112.5 mg/mL (278.13 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	2.4722 mL	12.3612 mL	24.7225 mL
5 mM	0.4944 mL	2.4722 mL	4.9445 mL
10 mM	0.2472 mL	1.2361 mL	2.4722 mL
50 mM	0.0494 mL	0.2472 mL	0.4944 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Ismael Al-Ramahi, et al. Inhibition of PIP4Ky Ameliorates the Pathological Effects of Mutant Huntingtin Protein. Elife. 2017 Dec 26;6:e29123.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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