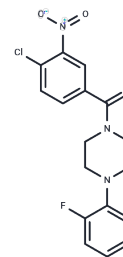


SMI481

Chemical Properties

CAS No. : 432020-20-7
 Formula: C₁₇H₁₅ClFN₃O₃
 Molecular Weight: 363.77
 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	SMI481 (NPPM6748481) is the first small-molecule Sec14-like phosphatidylinositol transfer proteins (PITPs) inhibitor.
Targets(IC50)	Others
In vitro	Sec14-like phosphatidylinositol transfer proteins (PITPs) integrate diverse territories of intracellular lipid metabolism with stimulated phosphatidylinositol-4-phosphate production and are discriminating portals for interrogating phosphoinositide signaling. Yet, neither Sec14-like PITPs nor PITPs in general have been exploited as targets for chemical inhibition for such purposes. Herein, we validate what is to our knowledge the first small-molecule inhibitors (SMIs) of the yeast PITP Sec14. These SMIs are nitrophenyl (4-(2-methoxyphenyl)piperazin-1-yl)methanones (NPPMs) and are effective inhibitors in vitro and in vivo. We further establish that Sec14 is the sole essential NPPM target in yeast and that NPPMs exhibit exquisite targeting specificities for Sec14 (relative to related Sec14-like PITPs), propose a mechanism for how NPPMs exert their inhibitory effects and demonstrate that NPPMs exhibit exquisite pathway selectivity in inhibiting phosphoinositide signaling in cells. These data deliver proof of concept that PITP-directed SMIs offer new and generally applicable avenues for intervening with phosphoinositide signaling pathways with selectivities superior to those afforded by contemporary lipid kinase-directed strategies.

Solubility Information

Solubility	DMSO: 55 mg/mL (151.19 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	2.749 mL	13.7449 mL	27.4899 mL
5 mM	0.5498 mL	2.749 mL	5.498 mL
10 mM	0.2749 mL	1.3745 mL	2.749 mL
50 mM	0.055 mL	0.2749 mL	0.5498 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

Nile AH, Tripathi A, Yuan P, Mousley CJ, Suresh S, Wallace IM, Shah SD, Pohlhaus DT, Temple B, Nislow C, Giaever G, Tropsha A, Davis RW, St Onge RP, Bankaitis VA. PITPs as targets for selectively interfering with phosphoinositide signaling in cells. *Nat Chem Biol.* 2014 Jan;10(1):76-84. doi: 10.1038/nchembio.1389. Epub 2013 Nov 24. PubMed PMID: 24292071; PubMed Central PMCID: PMC4059020.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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