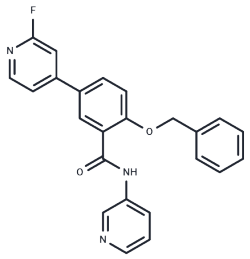
Data Sheet (Cat.No.T2240)

TargetMol

GSK2578215A

Chemical Properties



CAS No. : 1285515-21-0

Formula: C24H18FN3O2

Molecular Weight: 399.42

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	GSK2578215A is a potent and selective LRRK2 kinase inhibitor.
Targets(IC50)	Mitophagy,Autophagy,LRRK2
In vitro	Administering 100 mg/kg intraperitoneally (i.p.) of GSK2578215A inhibits the phosphorylation of Ser910 and Ser935 in the spleen and kidneys of mice, but has no effect in the brain.
In vivo	In SH-SY5Y cells, GSK2578215A impairs autophagic flux by altering autophagosome-lysosome fusion and induces mitochondrial autophagy through Drp-1-mediated mitochondrial fission and mitochondrial-derived ROS signaling. Furthermore, GSK2578215A induces dose-dependent inhibition of Ser910 and Ser935 phosphorylation in HEK293 cells stably transfected with wild-type LRRK2 and LRRK2 [G2019S], and similarly promotes dose-dependent dephosphorylation of Ser910 and Ser935 in endogenous LRRK2 in mouse Swiss 3T3 cells.
Kinase Assay	PFV integration assay: For quantitative strand transfer assays, donor DNA substrate is formed by annealing HPLC grade oligonucleotides 5′-GACTCACTATAGGGCACGCGTCAAAATTCCATGACA and 5′-ATTGTCATG GAATTTTGACGCGTGCCCTATAGTGAGTC. Reactions (40 µL) contains 0.75 µM PFV IN, 0.75 µM donor DNA, 4 nM (300 ng) supercoiled pGEM9-Zf(?) target DNA, 125 mM NaCl, 5 mM MgSO4, 4 µM ZnCl2, 10 mM DTT, 0.8% (vol/vol) DMSO, and 25 mM BisTris propane-HCl, pH 7.45. Raltegravir is added at indicated concentrations. Reactions are initiated by addition of 2 µL PFV IN diluted in 150 mM NaCl, 2 mM DTT, and 10 mM Tris-HCl, pH 7.4, and stopped after 1 hour at 37 °C by addition of 25 mM EDTA and 0.5% (wt/vol) SDS. Reaction products, deproteinized by digestion with 20 µg proteinase K for 30 minutes at 37 °C followed by ethanol precipitation, are separated in 1.5% agarose gels and visualized by staining with ethidium bromide. Integration products are quantified by quantitative real-time PCR, using Platinum SYBR Green qPCR SuperMix and three primers: 5′-CTACTTACTCTAGCTTCCCGGCAAC, 5′-TTCGCCAGTTAATAGTTTGCGCAAC, and 5′-GACTCACTATAGGGCACGCGT. PCR reactions (20 µL) contained 0.5 µM of each primer and 1 µL diluted integration reaction product. Following a 5-min denaturation step at 95 °C, 35 cycles are carried out in a CFX96 PCR instrument, using 10 seconds denaturation at 95 °C, 30 seconds annealing at 56 °C and 1 minutes extension at 68 °C. Standard curves are generated using serial dilutions of WT PFV IN reaction in the absence of INSTI.

Solubility Information

Solubility	DMSO: 4.5 mg/mL (11.27 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5036 mL	12.5182 mL	25.0363 mL
5 mM	0.5007 mL	2.5036 mL	5.0073 mL
10 mM	0.2504 mL	1.2518 mL	2.5036 mL
50 mM	0.0501 mL	0.2504 mL	0.5007 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

Reith AD, et al. Bioorg Med Chem Lett. 2012, 22(17), 5625-5629.
Saez-Atienzar S, et al. Cell Death Dis. 2014, 5, e1368.