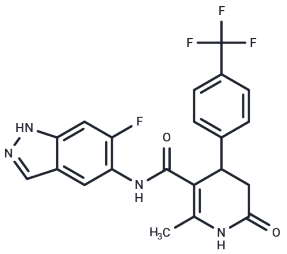
Data Sheet (Cat.No.T2633)

TargetMol

GSK429286A

Chemical Properties



CAS No. : 864082-47-3

Formula: C21H16F4N4O2

Molecular Weight: 432.37

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	GSK429286A (RHO-15) is a specific inhibitor of ROCK1/2 (IC50: 14/63 nM).
Targets(IC50)	ROCK
In vitro	GSK429286A (3-30 mg/kg, p.o.) significantly reduces the mean arterial pressure in spontaneous hypertensive rats in a dose-dependent manner, with a maximum reduction of 50 mmHg approximately 2 hours after administering a dose of 30 mg/kg. In male Sprague-Dawley rats, the oral bioavailability of GSK429286A is 61%.
In vivo	GSK429286A at a concentration of 1 μM significantly reduces the activity of ROCK2 by 20-fold, whereas it only reduces MSK1 activity by approximately 5-fold at the same concentration. This compound exhibits higher selectivity as an ROCK2 inhibitor compared to the commonly used inhibitor Y-27632, showing negligible inhibition against LRRK2 even at 30 μM, with an IC50 that is 500 times higher for ROCK2. Similar to GSK269962A, GSK429286A at 10 μM can eliminate phosphorylation at Thr850 of MYPT induced either by the baseline or by the G14V-Rho mutant in HEK-293 cells, demonstrating effects similar to those of H-1152 and Y-27632 and consistent with ROCK-mediated phosphorylation. Regardless of the presence of G14V-Rho, GSK429286A does not affect the phosphorylation of ERM proteins. Additionally, GSK429286A mildly inhibits RSK (IC50: 0.78 μM) and p70S6K (IC50: 1.94 μM). It also significantly inhibits the dilation of rat aortic rings (IC50: 190 nM).
Kinase Assay	Binding affinity assays: TR-FRET-binding affinity assays are performed for BCL-2, BCL-XL, and MCL-1 in 4.52?mM monobasic potassium phosphate, 15.48?mM dibasic potassium phosphate, 1?mM sodium EDTA, 0.05% Pluronic F-68 detergent, 50?mM sodium chloride, and 1?mM DTT (pH 7.5). For MCL-1 assays, GST-tagged MCL-1 (1?nM) is mixed with 100?nM f-Bak, 1?nM Tb-labeled anti-GST antibody, and compound at room temperature (RT) for 60?min. Fluorescence is measured on an Envision plate reader using a 340/35?nm excitation filter and 520/525 (f-Bak) and 495/510?nm (Tb-labeled anti-GST antibody) emission filters.

Solubility Information

Solubility	Ethanol: 4 mg/mL (9.25 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 140 mg/mL (323.8 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (7.63 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3128 mL	11.5642 mL	23.1283 mL
5 mM	0.4626 mL	2.3128 mL	4.6257 mL
10 mM	0.2313 mL	1.1564 mL	2.3128 mL
50 mM	0.0463 mL	0.2313 mL	0.4626 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

Goodman KB, et al. J Med Chem, 2007, 50(1), 6-9.
Nichols RJ, et al. Biochem J, 2009, 424(1), 47-60.