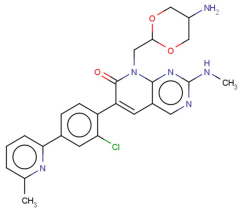
Data Sheet (Cat.No.T11342L)

TargetMol
A DRUG SCREENING EXPERT

G-5555

Chemical Properties



CAS No.:	1648863-90-4
Formula:	C25H25ClN6O3
Molecular Weight:	492.96
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	G-5555 is a potent inhibitor of p21-activated kinase 1 (PAK1) (Kis: 3.7 nM and 11 nM for PAK1 and PAK2, respectively).
Targets(IC_{50})	PAK1: 3.7 nM (ki) PAK2: 11 nM (ki)
In vitro	G-5555 shows high selectivity for the group I PAKs and it also shows excellent kinase selectivity and inhibits only eight out of the 235 kinases tested other than PAK1 with inhibition >70%: PAK2, PAK3, KHS1, Lck, MST3, MST4, SIK2, and YSK1. The IC50s of G-5555 against SIK2, PAK2, KHS1, MST4, YSK1, MST3, and Lck are 9, 11, 10, 20, 34, 43, 52 nM, respectively. There is a negligible activity for G-5555 against the hERG channel with IC50 more than 10 μM in a patch-clamp assay[1]. G-5555 potently inhibits PAK2 (Ki: 11 nM). G-5555 has obviously greater growth inhibitory activity in cell lines that are PAK-amplified compared to non-amplified lines, in an array of 23 breast cancer cell lines[2].
In vivo	G-5555 has low blood clearance and an acceptable half-life. Good oral exposure (AUC = 30 μM•h) and high oral bioavailability (F = 80%) are achieved[1]. G-5555 inhibits phosphorylation of the PAK1/2 downstream substrate mitogen-activated protein kinase 1 (MEK1) S298, in an H292 non-small cell lunger cancer (NSCLC) xenograft study in mice. When administered at an oral dose of 25 mg/kg b.i.d., imparts 60% tumor growth inhibition in this model13 and a PAK1 amplified breast cancer xenograft model, MDAMB-175. [2]

Solubility Information

Solubility	DMSO: 20 mg/mL (40.57 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.029 mL	10.143 mL	20.286 mL
5 mM	0.406 mL	2.029 mL	4.057 mL
10 mM	0.203 mL	1.014 mL	2.029 mL
50 mM	0.041 mL	0.203 mL	0.406 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Ndubaku CO, et al. Design of Selective PAK1 Inhibitor G-5555: Improving Properties by Employing an Unorthodox Low-pK a Polar Moiety. ACS Med Chem Lett. 2015 Oct 31;6(12):1241-6.

2. Rudolph J, et al. Chemically Diverse Group I p21-Activated Kinase (PAK) Inhibitors Impart Acute Cardiovascular Toxicity with a Narrow Therapeutic Window. J Med Chem. 2016 Jun 9;59(11):5520-41.

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