

G-5555

Chemical Properties

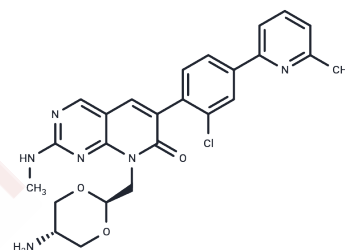
CAS No. : 1648863-90-4

Formula: C₂₅H₂₅ClN₆O₃

Molecular Weight: 492.96

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	G-5555 is a potent inhibitor of p21-activated kinase 1 (PAK1) (K _i : 3.7 nM and 11 nM for PAK1 and PAK2, respectively).
Targets(IC ₅₀)	PAK
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 IC ₅₀ s 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 IC ₅₀ more than 10 μM in a patch-clamp assay[1]. G-5555 potently inhibits PAK2 (K _i : 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 lung 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 model[3] and a PAK1 amplified breast cancer xenograft model, MDAMB-175. [2]

Solubility Information

Solubility	DMSO: 1 mg/mL (2.03 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: 1 mg/mL (2.03 mM), Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0286 mL	10.1428 mL	20.2856 mL
5 mM	0.4057 mL	2.0286 mL	4.0571 mL
10 mM	0.2029 mL	1.0143 mL	2.0286 mL
50 mM	0.0406 mL	0.2029 mL	0.4057 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

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.

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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481