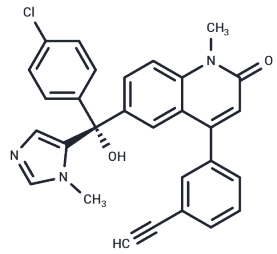
Data Sheet (Cat.No.T38050)

TargetMol

CP-609754

Chemical Properties



CAS No. : 1190094-64-4

Formula: C29H22ClN3O2

Molecular Weight: 479.96

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	CP-609754 (LNK-754) is a potent and reversible farnesyltransferase inhibitor with potential anticancer activity. It inhibits farnesylation of recombinant human H-Ras (IC50=0.57 ng/mL) and K-Ras (IC50=46 ng/mL)[1]. In 3T3 H-ras (61L)-transfected cell lines, CP-609754 exhibits a slow on/off rate, inhibiting mutant H-Ras farnesylation with an IC50 of 1.72 ng/mL[1]. The compound is competitive for the prenyl acceptor (H-Ras protein) and noncompetitive for the prenyl donor farnesyl PPI, selectively inhibiting farnesylation of both H- and K-Ras proteins in 3T3 transfectants[1]. In vivo, CP-609754 shows antitumor activity against 3T3 H-ras (61L) tumors, with tumor regression achieved at 100 mg/kg twice daily and an ED50 for tumor growth inhibition at 28 mg/kg[1]. Continuous i.p. infusion of CP-609754 inhibits tumor growth by over 50% and reduces tumor farnesyltransferase activity by over 30% when plasma concentration is maintained above 118 ng/mL[1]. [1]. Stacy L Moulder, et al. A phase I open label study of the farnesyltransferase inhibitor CP-609,754 in patients with advanced malignant tumors. Clin Cancer Res. 2004 Nov 1;10 (21):7127-35.
Targets(IC50)	Transferase
In vitro	CP-609754 (CP-609,754) serves as a reversible farnesyltransferase inhibitor, characterized by a slow on/off rate, effectively inhibiting the farnesylation of mutant H-Ras in 3T3 H-ras (61L)-transfected cell lines with an IC50 of 1.72 ng/mL, as evidenced by SDS-PAGE analysis of [35S]methionine-labeled material[1]. The compound exhibits competitive inhibition toward the prenyl acceptor (H-Ras protein) while being noncompetitive relative to the prenyl donor, farnesyl PPI. It operates by engaging with the farnesyltransferase-farnesyl PPI complex and vying for H-Ras protein binding, demonstrating selective inhibition of both H- and K-Ras proteins' farnesylation in 3T3 transfectants[1].
In vivo	CP-609754 exhibits antitumor activity in vivo against 3T3 H-ras (61L) tumors. Administration of CP-609754 orally twice daily leads to tumor regression at a dose of 100 mg/kg, and the effective dose for inhibiting 50% of tumor growth (ED50) is 28 mg/kg. Continuous intraperitoneal (i.p.) infusion of CP-609754 results in over 50% inhibition of tumor growth and more than 30% reduction in tumor farnesyltransferase activity in mice, provided the plasma concentration of CP-609754 remains above 118 ng/mL[1].

Solubility Information

Solubility	DMSO: 100 mg/mL (208.35 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: 4 mg/mL (8.33 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	2.0835 mL	10.4175 mL	20.8351 mL
5 mM	0.4167 mL	2.0835 mL	4.167 mL
10 mM	0.2084 mL	1.0418 mL	2.0835 mL
50 mM	0.0417 mL	0.2084 mL	0.4167 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

Stacy L Moulder, et al. A phase I open label study of the farnesyltransferase inhibitor CP-609,754 in patients with advanced malignant tumors. Clin Cancer Res. 2004 Nov 1;10(21):7127-35.