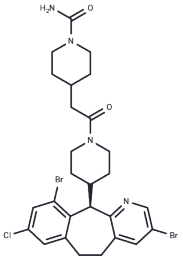
Data Sheet (Cat.No.T6302)

TargetMol

Lonafarnib

Chemical Properties



CAS No. : 193275-84-2

Formula: C27H31Br2ClN4O2

Molecular Weight: 638.82

Storage: Store at low temperature
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	Lonafarnib (Sch66336) is an orally bioavailable FPTase inhibitor for H-ras, K-ras-4B, and N-ras (IC50: 1.9/5.2/2.8 nM).
Targets(IC50)	Raf,Autophagy,Transferase,Ras,Kras
In vitro	SCH66336 at concentration ranging from 0.1 μM to 8 μM suppress growth and induce apoptosis of human head and neck squamous carcinoma cells (HNSCC) in a dose and time dependent manner. SCH66336 (8 μM) suppresses protein kinase B/Akt activity as well as the phosphorylation of the Akt substrates glycogen synthase kinase (GSK)-3β, forkhead transcription factor, and BAD in SqCC/Y1 cells. [2] SCH66336 demonstrate variable antiproliferative effects against the cell lines, with IC50 ranging from 0.6 μM to 32.3 μM. [3] Lonafarnib induces a CCAAT/enhancer-binding protein homologous protein (CHOP)-dependent transactivation of the DR5 promoter, thus induces CHOP-dependent DR5 up-regulation. Lonafarnib (< 10 μM) activates caspase-8 and its downstream caspases, thus induces caspase-8-dependent apoptosis in H1792 cells. Lonafarnib (5 μM) up-regulate DR5 expression, increase cell-surface DR5 distribution, and enhance tumor necrosis factor-related apoptosis-inducing ligand-induced apoptosis in H1792 cells.[4]
In vivo	Lonafarnib inhibits HTBI77 human lung carcinoma xenograft growth in nude mice in a dose-dependent fashion. [1] Lonafarnib dosed at 50 mg/kg p.o. bid by oral gavage inhibits tumor growth with up to 69% growth inhibition after 21 days of treatment in NOD/SCID mice bearing s.c. flank XEN01, XEN05 or XEN08 GBM xenografts. [3]
Kinase Assay	FPTactivity is determined by measuring the transfer of [3H]farnesyl from [3H]farnesyl PPi to trichloroacetic acid-precipitable Ha-Ras-CVLS. GGPT-1 activity is similarly determined using [3H]geranylgeranyl diphosphate and Ha-Ras-CVLL as substrates[1].
Cell Research	The cells are seeded in 96-well cell-culture cluster plates at a density that allowed control cultures to grow exponentially for 5 days. After 24 hours, the cells are treated with different concentrations of SCH66336. SCH66336 is dissolved in DMSO. Control cultures received the same amount of DMSO as the treated cultures do. Cell numbers are estimated after 5 days of treatment by SRB assay. The percentage of growth inhibition is calculated by using the equation: percentage growth inhibition = (1 ? At/Ac) × 100, where At and Ac represent the absorbance in treated and control cultures, respectively. The drug concentration causing a 50% cell growth inhibition (IC50), is determined by

Cell Research	interpolation from dose-response curves.(Only for Reference)

Solubility Information

Solubility	DMSO: 10 mg/mL (15.65 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 (1.57 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	1.5654 mL	7.8269 mL	15.6539 mL
5 mM	0.3131 mL	1.5654 mL	3.1308 mL
10 mM	0.1565 mL	0.7827 mL	1.5654 mL
50 mM	0.0313 mL	0.1565 mL	0.3131 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

Liu M, et al. Cancer Res, 1998, 58(21), 4947-4956.
Tangliang Zhao1*, Yi Bao1*,Xinxin Gan1*, Jie Wang1*, Qiong Chen1*, Zhihui Dai2*, Bing Liu 1, Anbang Wang1, Shuhan Sun2, Fu Yang2,3, Linhui Wang1 DNA methylation-regulated QPCT promotes sunitinib resistance by increasing HRAS stability in renal cell carcinoma. Theranostics. 2019, Vol. 9, Issue 21
Chun KH, et al. Cancer Res, 2003, 63(16), 4796-4800.
Feldkamp MM, et al. Cancer Res, 2001, 61(11), 4425-4431.
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Tangliang Zhao1*, Yi Bao1*,Xinxin Gan1, et al. DNA methylation-regulated QPCT promotes sunitinib resistance by increasing HRAS stability in renal cell carcinoma. Theranostics. 2019, Vol. 9, Issue 21

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