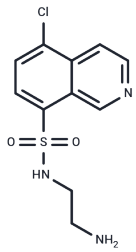
Data Sheet (Cat.No.T10829)

TargetMol

CKI-7 free base

Chemical Properties



CAS No. : 120615-25-0

Formula: C11H12ClN3O2S

Molecular Weight: 285.75

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	CKI-7 free base is a potent, ATP-competitive inhibitor of casein kinase 1 (CK1; IC50: 6 μM; Ki: 8.5 μM) and a selective Cdc7 kinase inhibitor, also inhibiting SGK, ribosomal S6 kinase-1 (S6K1), and MSK1.
Targets(IC50)	Casein Kinase,CDK,S6 Kinase,SGK
In vitro	The treatment of CKI-7 (0.1-10 μM; 5 days; ES cells) significantly increases the expression of the early neuroectodermal marker Sox1 and the number of cells positive for the neural markers βIII-tubulin and nestin, in a concentration-dependent manner. CKI-7 (5 μM; 5 days; ES cells) treatment suppresses SFEB-induced β-catenin stabilization on day 5 [1].
In vivo	In vivo dose-dependent, the anti-tumor activity of CKI-7 is demonstrated in a SCID-Beige mouse systemic tumor model utilizing isolated Philadelphia chromosome-positive acute lymphoblastic leukemia cell line. Exposure to CKI-7 results in a cell cycle-dependent caspase 3 activation and apoptotic cell death [2].

Solubility Information

Solubility	DMSO: 25 mg/mL (87.49 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: 2 mg/mL (7 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	3.4996 mL	17.4978 mL	34.9956 mL
5 mM	0.6999 mL	3.4996 mL	6.9991 mL
10 mM	0.350 mL	1.7498 mL	3.4996 mL
50 mM	0.070 mL	0.350 mL	0.6999 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

Osakada F, et al. In vitro differentiation of retinal cells from human pluripotent stem cells by small-molecule induction. J Cell Sci. 2009 Sep 1;122(Pt 17):3169-79.
Mark G. Frattini, et al. Small Molecule Inhibition of Cdc7, a Key Cell Cycle Regulator and Novel Therapeutic Target, Successfully Inhibits Leukemia Cell Growth in Vitro and in Vivo. Blood (2008) 112 (11): 2668.
Chijiwa T, et al. A newly synthesized selective casein kinase I inhibitor, N-(2-aminoethyl)-5-chloroisoquinoline-8-sulfonamide, and affinity purification of casein kinase I from bovine testis. J Biol Chem. 1989 Mar 25;264(9):4924-7.
Rena G, et al. D4476, a cell-permeant inhibitor of CK1, suppresses the site-specific phosphorylation and nuclear exclusion of FOXO1a. EMBO Rep. 2004 Jan;5(1):60-5.