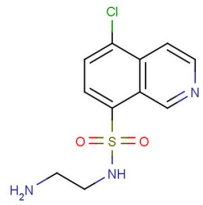
Data Sheet (Cat.No.T10829)

TargetMol
A DRUG SCREENING EXPERT

CKI-7

Chemical Properties



CAS No.:	120615-25-0
Formula:	C11H12ClN3O2S
Molecular Weight:	285.75
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	CKI-7 free base is a potent and ATP-competitive inhibitor of casein kinase 1 (CK1; IC50: 6 μM; Ki: 8.5 μM) and a selective Cdc7 kinase inhibitor. CKI-7 free base also inhibits SGK, ribosomal S6 kinase-1 (S6K1), and MSK1.
Targets(IC_{50})	CK1: 8.5 μM (ki)
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) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5 mL	17.498 mL	34.996 mL
5 mM	0.7 mL	3.5 mL	6.999 mL
10 mM	0.35 mL	1.75 mL	3.5 mL
50 mM	0.07 mL	0.35 mL	0.7 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. 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.

2. 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.

3. 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.

4. 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.

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