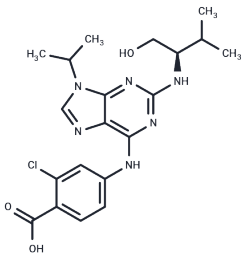
Data Sheet (Cat.No.T7167)

TargetMol

Purvalanol B

Chemical Properties



CAS No. : 212844-54-7

Formula: C20H25ClN6O3

Molecular Weight: 432.9

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	Purvalanol B (NG 95) is a CDK inhibitor that targets Cdk2/cyclin A, Cdk2/cyclin E, Cdk5/p35, and Cdk2/cyclin B, with IC50 values of 6, 9, 6, and 6 nM, respectively.
Targets(IC50)	CDK,Parasite
In vivo	Purvalanol B application decreases the ability of late-stage P.falciparum trophozoites to form multinucleated schizonts and up-regulates proteasome subunits and proteins that contribute to redox homeostasis, which may indicate an increase in oxidative stress as a result of inhibitor application[1].
Animal Research	A SYBR Green I parasite growth assay was used to measure the IC50 of Purvalanol B with P. falciparum (strain W2). Purvalanol B or DMSO control were applied to synchronized parasites 36 hours post invasion and parasites were incubated for 12 hours. Giemsa-stained blood smears were used to determine the effect of Purvalanol B on parasite growth, global quantitative proteomic analysis was used to examine differences in protein expression between Purvalanol B-treated and control parasites and results were confirmed by qPCR[1].

Solubility Information

Solubility	DMSO: 40 mg/mL (92.4 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 (4.62 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	2.310 mL	11.550 mL	23.100 mL
5 mM	0.462 mL	2.310 mL	4.620 mL
10 mM	0.231 mL	1.155 mL	2.310 mL
50 mM	0.0462 mL	0.231 mL	0.462 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

Bullard K M , Broccardo C , Keenan S M . Effects of cyclin-dependent kinase inhibitor Purvalanol B application on protein expression and developmental progression in intra-erythrocytic Plasmodium falciparum parasites[J]. Malaria Journal, 2015, 14(1):147.

Jiang L, Yu Y, Li Z, et al.BMS-265246, a Cyclin-Dependent Kinase Inhibitor, Inhibits the Infection of Herpes Simplex Virus Type 1.Viruses.2023, 15(8): 1642.

Meijer L , Knockaert M , Lenormand P , et al. p42/p44 MAPKs are intracellular targets of the CDK inhibitor purvalanol[J]. Oncogene, 2002, 21(42):6413-6424.