Purvalanol B

Cat. No.: HY-18299

CAS No.: 212844-54-7

Molecular Formula: $C_{20}H_{25}ClN_6O_3$

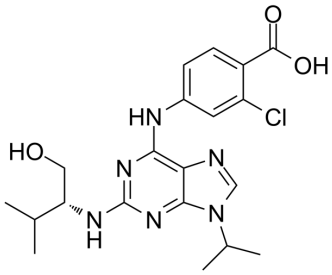
Molecular Weight: 432.9

Target: CDK; Parasite

Pathway: Cell Cycle/DNA Damage; Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 40 mg/mL (92.40 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.3100 mL	11.5500 mL	23.1000 mL
5 mM	0.4620 mL	2.3100 mL	4.6200 mL
10 mM	0.2310 mL	1.1550 mL	2.3100 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.78 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.78 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Purvalanol B (NG 95) is a potent, selective, reversible and ATP-competitive inhibitor CDK, with IC_{50}s of 6 nM, 6 nM, 9 nM, 6 nM for cdc2-cyclin B, CDK2-cyclin A, CDK2-cyclin E and CDK5-p35, respectively. Purvalanol B shows selectivity for CDK over a range of other protein kinases (IC_{50}>1000 nM). Purvalanol B inhibits the growth a chloroquine-resistant strain of P. falciparum[1][1].

IC_{50} & Target

cdc2/cyclin B	cdk2/cyclin A	CDK2/cyclinE	CDK5/p35
6 nM (IC_{50})	6 nM (IC_{50})	9 nM (IC_{50})	6 nM (IC_{50})

In Vitro

Purvalanol B binds to P. falciparum casein kinase 1 (CK1) from blood stage cell lysates and inhibits the growth a

chloroquine-resistant strain of P. falciparum (FCR-3) with an IC_{50} of 7.07 μM[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Anticancer Drugs. 2022 Aug 9.

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REFERENCES

[1]. Gray NS, et, al. Exploiting chemical libraries, structure, and genomics in the search for kinase inhibitors. Science. 1998 Jul 24;281(5376):533-8.

[2]. Bullard KM, et, al. Effects of cyclin-dependent kinase inhibitor Purvalanol B application on protein expression and developmental progression in intra-erythrocytic Plasmodium falciparum parasites. Malar J. 2015 Apr 8;14:147.

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