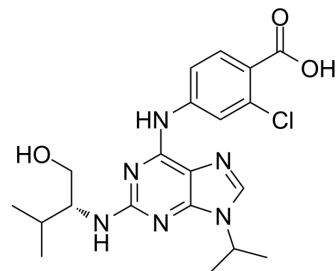


## Purvalanol B

<b>Cat. No.:</b>	HY-18299		
<b>CAS No.:</b>	212844-54-7		
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>25</sub> ClN <sub>6</sub> O <sub>3</sub>		
<b>Molecular Weight:</b>	432.9		
<b>Target:</b>	CDK; Parasite		
<b>Pathway:</b>	Cell Cycle/DNA Damage; Anti-infection		
<b>Storage:</b>	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 Concentration	Mass		
		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

- 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
- 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<sub>50</sub>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<sub>50</sub>>1000 nM). Purvalanol B inhibits the growth a chloroquine-resistant strain of *P. falciparum*<sup>[1][1]</sup>.

#### IC<sub>50</sub> & Target

cdc2/cyclin B 6 nM (IC <sub>50</sub> )	cdk2/cyclin A 6 nM (IC <sub>50</sub> )	CDK2/cyclinE 9 nM (IC <sub>50</sub> )	CDK5/p35 6 nM (IC <sub>50</sub> )
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#### In Vitro

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

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chloroquine-resistant strain of *P. falciparum* (FCR-3) with an IC<sub>50</sub> of 7.07 μM<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## CUSTOMER VALIDATION

- Anticancer Drugs. 2022 Aug 9.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## 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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**Caution: Product has not been fully validated for medical applications. For research use only.**

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