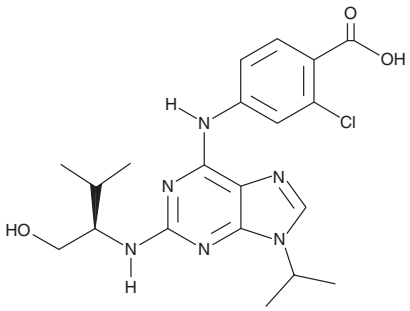
PRODUCT INFORMATION

Purvalanol B

Item No. 19115

CAS Registry No.:	212844-54-7
Formal Name:	2-chloro-4-[[2-[[(1R)-1-(hydroxymethyl)-2-methylpropyl]amino]-9-(1-methylethyl)-9H-purin-6-yl]amino]-benzoic acid
Synonym:	NG 95
MF:	$C_{20}H_{25}ClN_6O_3$
FW:	432.9
Purity:	≥95%
UV/Vis.:	λ_{max}: 210, 222, 284, 329 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Purvalanol B is supplied as a crystalline solid. A stock solution may be made by dissolving the purvalanol B in the solvent of choice, which should be purged with an inert gas. Purvalanol B is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of purvalanol B in these solvents is approximately 10, 30, and 50 mg/ml, respectively.

Purvalanol B is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, purvalanol B should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Purvalanol B has a solubility of approximately 0.2 mg/ml in 1:5 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Cyclin-dependent kinases (CDKs) are key regulators of cell cycle progression and are therefore promising targets for cancer therapy.[1] Purvalanol B is a CDK inhibitor that most potently inhibits Cdk2/cyclin A, Cdk2/cyclin E, Cdk5/p35, and Cdk2/cyclin B (IC_{50}s = 6, 9, 6, and 6 nM, respectively).[2] It is inactive against Cdk4/cyclin D1 as well as several other protein kinases. Purvalanol B is a 2,6,9-trisubstituted purine that, at micromolar doses, inhibits the growth of parasites, including *Plasmodium*.[3,4]

References

1. Bettayeb, K., Baunbaek, D., Delehouze, C., *et al*. CDK inhibitors roscovitine and CR8 trigger Mcl-I down-regulation and apoptotic cell death in neuroblastoma cells. *Genes Cancer* **1(4)**, 369-380 (2010).
2. Gray, N.S., Wodicka, L., Thunnissen, A.-M.W.H., *et al*. Exploiting chemical libraries, structure, and genomics in the search for kinase inhibitors. *Science* **281**, 533-538 (1998).
3. Knockaert, M., Gray, N., Damiens, E., *et al*. Intracellular targets of cyclin-dependent kinase inhibitors: Identification by affinity chromatography using immobilised inhibitors. *Chem. Biol.* **7(6)**, 411-422 (2000).
4. Bullard, K.M., Broccardo, C., and Keenan, S.M. Effects of cyclin-dependent kinase inhibitor purvalanol B application on protein expression and developmental progression in intra-erythrocytic *Plasmodium falciparum* parasites. *Malar. J.* **14**, (2015).

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