

PRODUCT INFORMATION

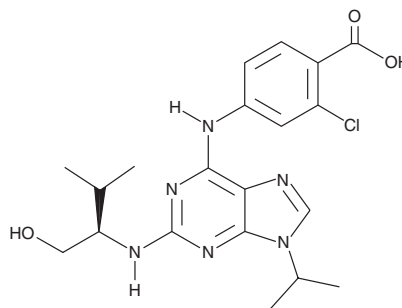


Purvalanol B

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: C₂₀H₂₅ClN₆O₃
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 (IC₅₀s = 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-1 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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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