

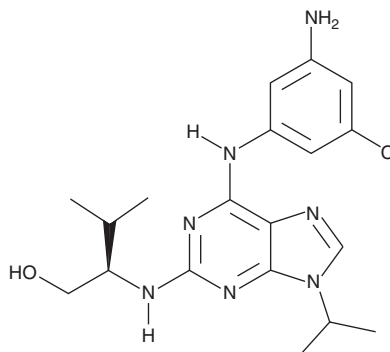
PRODUCT INFORMATION



Aminopurvalanol A

Item No. 21424

CAS Registry No.: 220792-57-4
Formal Name: (2R)-2-[[6-[(3-amino-5-chlorophenyl)amino]-9-(1-methylethyl)-9H-purin-2-yl]amino]-3-methyl-1-butanol
Synonym: NG 97
MF: C₁₉H₂₆ClN₇O
FW: 403.9
Purity: ≥98%
UV/Vis.: λ_{max}: 211, 256, 315 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

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

Aminopurvalanol A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, aminopurvalanol A should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Aminopurvalanol A has a solubility of approximately 0.2 mg/ml in a 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

Aminopurvalanol A is a selective, cell-permeable, and competitive cyclin-dependent kinase (Cdk) inhibitor that potently inhibits Cdk1/cyclin B, Cdk2/cyclin A, Cdk2/cyclin E, and Cdk5/p35 (IC₅₀s = 33, 33, 28, and 20 nM, respectively).¹ It is over 90-fold selective for Cdks over ERK1, ERK2, PKC-δ, protein kinase A (PKA), casein kinase 1, insulin receptor tyrosine kinase (IC₅₀s = 3.0-36 μM), and over 3,000-fold selective over a range of other kinases (IC₅₀s > 100 μM). In antiproliferative assays *in vitro*, aminopurvalanol A inhibits growth of ovarian (IGROV1), leukemic (SR), lung (NCI-H522), and colonic (KM12) cells (GI₅₀s = 470, 420, 1,000, and 30 nM, respectively). Aminopurvalanol A also inhibits mitotic division and preferentially arrests cells in the G₂/M phase *via* Cdk1/cyclin B.^{2,3}

References

1. Chang, Y.-T., Gray, N.S., Rosania, G.R., *et al.* Synthesis and application of functionally diverse 2,6,9-trisubstituted purine libraries as CDK inhibitors. *Chem. Biol.* **6**(6), 361-375 (1999).
2. Rosania, G.R., Merlie, J. Jr., Gray, N., *et al.* A cyclin-dependent kinase inhibitor inducing cancer cell differentiation: biochemical identification using *Xenopus* egg extracts. *Proc. Natl. Acad. Sci. USA* **96**(9), 4797-4802 (1999).
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).

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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