

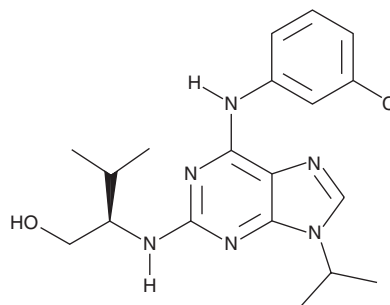
PRODUCT INFORMATION



Purvalanol A

Item No. 14579

CAS Registry No.: 212844-53-6
Formal Name: (2R)-2-[[6-[(3-chlorophenyl)amino]-9-(1-methylethyl)-9H-purin-2-yl]amino]-3-methyl-1-butanol
Synonym: NG 60
MF: C₁₉H₂₅ClN₆O
FW: 388.9
Purity: ≥98%
UV/Vis.: λ_{max}: 216, 262, 314 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 A is supplied as a crystalline solid. A stock solution may be made by dissolving the purvalanol A in the solvent of choice, which should be purged with an inert gas. Purvalanol A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of Purvalanol A in these solvents is approximately 10, 30, and 50 mg/ml, respectively.

Purvalanol A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, purvalanol A should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Purvalanol 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

Purvalanol A is a potent, cell-permeable, and selective inhibitor of cyclin-dependent kinases (CDKs) with IC₅₀ values of 4, 70, 35, 850, and 75 nM for cdc2/cyclin B, Cdk2/cyclin A, Cdk2/cyclin E, Cdk4/cyclin D1 and Cdk5-p35, respectively.^{1,2} Purvalanol A reversibly arrests synchronized cells in the G₁ and G₂ phase of the cell cycle, inhibiting both cell proliferation and cell death.³ At 10 μM, purvalanol A potently suppresses the anchorage-independent growth of c-Src-transformed cells as well as HT-29 and SW48 human colon cancer cells.⁴

References

1. 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).
2. Bain, J., McLauchlan, H., Elliot, M., *et al.* The specificities of protein kinase inhibitors: An update. *Biochem. J.* **371**, 199-204 (2003).
3. Villerbu, N., Gaben, A.-M., Redeuilh, G., *et al.* Cellular effects of purvalanol A: A specific inhibitor of cyclin-dependent kinase activities. *Int. J. Cancer* **97**, 761-769 (2002).
4. Hikita, T., Oneyama, C., and Okada, M. Purvalanol A, a CDK inhibitor, effectively suppresses Src-mediated transformation by inhibiting both CDKs and c-Src. *Genes Cells* **15**, 1051-1062 (2010).

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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