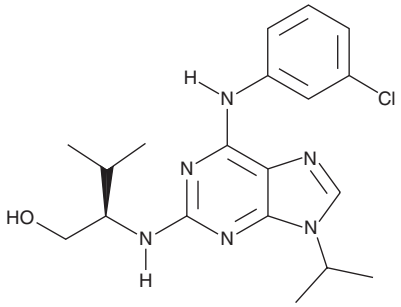
PRODUCT INFORMATION

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:	$C_{19}H_{25}ClN_6O$
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 IC_{50} 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 G_1 and G_2 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM