Print Date: May 4th 2022

Certificate of Analysis

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Product Name: **Purvalanol B** **Catalog No.: 1581** **Batch No.: 7**

CAS Number: 212844-54-7

IUPAC Name: (2*R*)-2-[[6-[(3-Chloro-4-carboxyphenyl)amino]-9-(1-methylethyl)-9*H*-purin-2-yl]amino]-3-methyl-1-butanol

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{20}H_{25}ClN_6O_3$

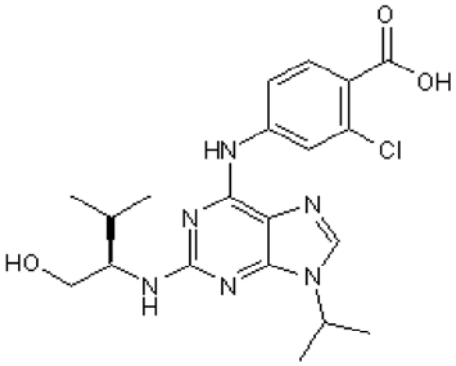
Batch Molecular Weight: 432.91

Physical Appearance: White solid

Solubility: 1eq. NaOH to 100 mM with gentle warming
DMSO to 100 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.9% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	55.49	5.82	19.41
Found	55.4	5.8	19.42

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Product Information

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Description:

Purvalanol B is a cyclin-dependent kinase (cdk) inhibitor (reported IC_{50} values are 6 nM for cdk1 and cdk5, and 6 - 9 nM for cdk2, depending on binding partner). Purvalanol B is selective over a range of other protein kinases (IC_{50} >10,000 nM). Purvalanol B shows antiproliferative properties, mediated by ERK1 and ERK2. Purvalanol B induces autophagy in cellular models and induces apoptosis in cancer cells, the apoptotic effects can be increased by combining with Rapamycin (Cat. No. 1292).

Physical and Chemical Properties:

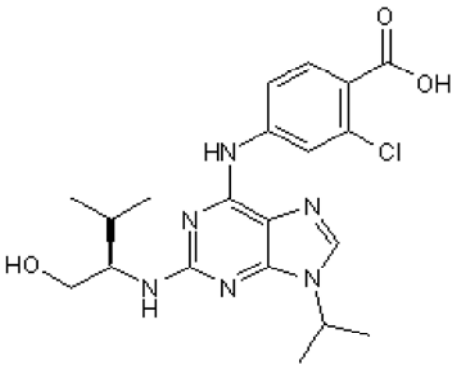
Batch Molecular Formula: $C_{20}H_{25}ClN_6O_3$

Batch Molecular Weight: 432.91

Physical Appearance: White solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

1eq. NaOH to 100 mM with gentle warming
DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

Licensing Information:

Sold under license from the Regents of the University of California

References:

Jorda *et al* (2018) How selective are pharmacological inhibitors of cell-cycle-regulating cyclin-dependent kinases? J.Med.Chem. ***61*** 9105. PMID: 30234987.

Ozfiliz-Kilbas *et al* (2018) Cyclin-dependent kinase inhibitors, roscovitine and purvalanol, induce apoptosis and autophagy related to unfolded protein response in HeLa cervical cancer cells. Mol.Biol.Rep. ***45*** 815. PMID: 29978381.

Knockaert *et al* (2002) p42/p44 MAPKs are intracellular targets of the CDK inhibitor purvalanol. Oncogene ***21*** 6413. PMID: 12226745.