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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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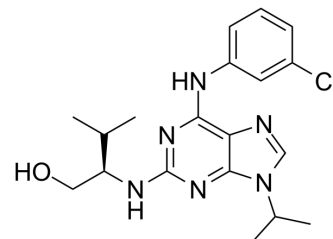
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Purvalanol A

Cat. No.:	HY-18299A		
CAS No.:	212844-53-6		
Molecular Formula:	C ₁₉ H ₂₅ ClN ₆ O		
Molecular Weight:	388.89		
Target:	CDK; Autophagy; Apoptosis		
Pathway:	Cell Cycle/DNA Damage; Autophagy; Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (128.57 mM)
 Ethanol : 10 mg/mL (25.71 mM; Need ultrasonic)
 * "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		2.5714 mL	12.8571 mL	25.7142 mL
	5 mM		0.5143 mL	2.5714 mL	5.1428 mL
	10 mM		0.2571 mL	1.2857 mL	2.5714 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (6.43 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (6.43 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Purvalanol A is a potent CDK inhibitor, which inhibits cdc2-cyclin B, cdk2-cyclin A, cdk2-cyclin E, cdk4-cyclin D1, and cdk5-p35 with IC₅₀s of 4, 70, 35, 850, 75 nM, respectively.

IC₅₀ & Target

cdc2-cyclin B 4 nM (IC ₅₀)	cdk2-cyclin E 35 nM (IC ₅₀)	cdk2-cyclin A 70 nM (IC ₅₀)	cdk4-cyclin D1 850 nM (IC ₅₀)
cdk5-p35 75 nM (IC ₅₀)	erk1 9000 nM (IC ₅₀)		

In Vitro

Purvalanol A inhibits cdc28 (*S. cerevisiae*) and erk1 with IC₅₀s of 80 and 9000 nM. Purvalanol A shows inhibitory activities against the NCI panel of 60 human tumor cell lines, with average GI₅₀ of 2 µM; two cell lines show an ~20-fold increase in sensitivity to purvalanol A: the KM12 colon cancer cell line with a GI₅₀ of 76 nM and the NCI-H522 non-small cell lung cancer cell line with a GI₅₀ of 347 nM^[1]. Purvalanol A is a 2.5-fold more potent inhibitor of CDK2, but also inhibits DYRK1A potently and a number of other protein kinases in the low micromolar range. Purvalanol A inhibits MKK1, MAPK2/ERK2, JNK/SAPK1c with IC₅₀s of 80, 26, 84 µM^[2]. Purvalanol A selectively inhibits the phosphorylation of cellular proteins. Purvalanol A prevents the increases of the contents of cyclins D and E during serum-induced G1 phase progression. Purvalanol A does not inhibit transcription under cell-free conditions^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- EMBO Rep. 2022 Apr 11;e53932.
- iScience. 2019 May 31;15:291-306.

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REFERENCES

[1]. Gray NS, et al. Exploiting chemical libraries, structure, and genomics in the search for kinase inhibitors. *Science*. 1998 Jul 24;281(5376):533-8.

[2]. Bain J, et al. The specificities of protein kinase inhibitors: an update. *Biochem J*. 2003 Apr 1;371(Pt 1):199-204.

[3]. Villerbu N, et al. Cellular effects of purvalanol A: a specific inhibitor of cyclin-dependent kinase activities. *Int J Cancer*. 2002 Feb 20;97(6):761-9.

Caution: Product has not been fully validated for medical applications. For research use only.

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