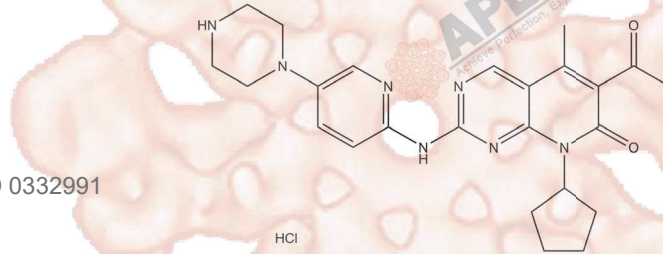


Product Data Sheet

PD 0332991 (Palbociclib) HCl

Cat. No.:	A8316
CAS No.:	827022-32-2
Formula:	C ₂₄ H ₃₀ CIN ₇ O ₂
M.Wt:	483.99
Synonyms:	PD0332991;PD-0332991;PD 0332991
Target:	Cell Cycle/Checkpoint
Pathway:	Cyclin-Dependent Kinases
Storage:	Store at -20°C



Solvent & Solubility

≥2.4mg/mL in DMSO, ≥24.2mg/mL in H₂O, ≥2.79 mg/mL in EtOH with ultrasonic and warming

In Vitro

Preparing Stock Solutions	Solvent Concentration	Mass		
		1mg	5mg	10mg
	1 mM	2.0662 mL	10.3308 mL	20.6616 mL
	5 mM	0.4132 mL	2.0662 mL	4.1323 mL
	10 mM	0.2066 mL	1.0331 mL	2.0662 mL

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

Biological Activity

Shortsummary

CDK4/6 inhibitor, highly selective

IC₅₀ & Target

11 nM (CDK4/cyclin D1), 16 nM (CDK6/cyclin D2)

In Vitro

Cell Viability Assay

Cell Line: MDA-MB-453 cells

Preparation method: The solubility of this compound in DMSO is

Reacting conditions: 80 nM, 24 hours

Applications: MDA-MB-453 breast carcinoma cells exposed to varying concentrations of PD 0332991 for 24 hours showed a significant increase in the percentage of cells in G1 in the presence of as little as 0.04 μmol/L PD 0332991 with a concomitant

	decline in other phases of the cell cycle. Maximum effects were attained at 0.08 $\mu\text{mol/L}$ and an exclusive G1 arrest was maintained even at concentrations as high as 10 $\mu\text{mol/L}$, consistent with the complete absence of any other effects on the cell cycle.	
In Vivo	Animal experiment	
	Animal models:	Mice bearing Colo-205 colon carcinoma xenografts
	Dosage form:	Oral administration, 150 or 75 mg/kg, daily for 14 days
	Applications:	Administration of PD 0332991 produced rapid tumor regressions and a corresponding tumor growth delay of about 50 days with >1 log of tumor cell kill at the highest dose tested. At 37.5 mg/kg, the tumor slowly regressed during treatment. Even at doses as low as 12.5 mg/kg, a 13-day growth delay was obtained indicating a 90% inhibition of tumor growth rate.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

- Gasset-Rosa F, Lu S, et al. "Cytoplasmic TDP-43 De-mixing Independent of Stress Granules Drives Inhibition of Nuclear Import, Loss of Nuclear TDP-43, and Cell Death." *Neuron*. 2019 Apr 17;102(2):339-357.e7.PMID:30853299
- Cheriyian VT, Alsaab H, et al. "A CARP-1 functional mimetic compound is synergistic with BRAF-targeting in non-small cell lung cancers." *Oncotarget*. 2018 Jul 3;9(51):29680-29697.PMID:30038713
- Azimi A, Caramuta S, et al. "Targeting CDK2 overcomes melanoma resistance against BRAF and Hsp90 inhibitors." *Mol Syst Biol*. 2018 Mar 5;14(3):e7858.PMID:29507054
- Yuan J, Jiang YY, et al. "Super-Enhancers Promote Transcriptional Dysregulation in Nasopharyngeal Carcinoma." *Cancer Res*. 2017 Dec 1;77(23):6614-6626.PMID:28951465
- Ma Y, Walsh MJ, et al. "CRISPR/Cas9 Screens Reveal Epstein-Barr Virus-Transformed B Cell Host Dependency Factors." *Cell Host Microbe*. 2017 May 10;21(5):580-591.e7.PMID:28494239

See more customer validations on www.apexbt.com.

References

- [1] Fry D W, Harvey P J, Keller P R, et al. Specific inhibition of cyclin-dependent kinase 4/6 by PD 0332991 and associated antitumor activity in human tumor xenografts. *Molecular cancer therapeutics*, 2004, 3(11): 1427-1438.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for

long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.



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