



Palbociclib (PD0332991)

Data Sheet

Catalog Number:	MC11124	Product Type:	Small Molecule
Bio-Activity:	CDK4 / CDK6 inhibitor	CAS #:	571190-30-2
Research Categories:	Immunology, cell death, cancer, diabetes, ageing	Chemical Name:	6-Acetyl-8-cyclopentyl-5-methyl-2-[[5-piperazin-1-yl)pyridine-2-yl]amino]-8H-pyrido[2,3-d]pyrimidin-7-one
Solubility:	Soluble in DMSO (up to 2 mg/ml with warming)	Molecular Formula:	C24H29N7O2
Purity:	> 98%	Molecular Weight:	447.53
Format:	Powder	Ship Temp:	Ambient
Storage:	-20°C		

Application Notes

Description/Data:

Potent and selective inhibitor of Cdk4, IC50 = 11 nM and Cdk6, IC50 = 16 nM [1]. Inhibits phosphorylation of Rb protein and cell cycle progression through G1 in primary 5T33MM cells and sensitized these cells to killing by a proteasome inhibitor (bortezomib) in mouse models [2]. Induces autophagy and senescence in AGS gastric cancer cells [3]. Clinically useful breast cancer agent [4]. Cell cycle inhibitors boost tumor immunogenicity [5].

References:

- 1) El-Rayes et al. (2004), Cyclooxygenase-2-dependent and –independent effects of celecoxib in pancreatic cancer cell lines; Mol. Cancer Ther., 3 1427
- 2) Menu et al. (2008), A novel therapeutic combination using PD 0332991 and bortezomib: study in 5T33MM myeloma model; Cancer Res., 68 5519
- 3) Valenzuela et al. (2017), Palbociclib-induced autophagy and senescence in gastric cancer cells; Exp. Cell Res., 360 390
- 4) Palanisamy et al. (2016), Palbociclib: A new hope in the treatment of breast cancer; J. Cancer Res. Ther., 12 1220
- 5) Minton et al. (2017) Tumour immunology: Cell cycle inhibitors boost tumour immunogenicity; Nat. Rev. Immunol., 17 529

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