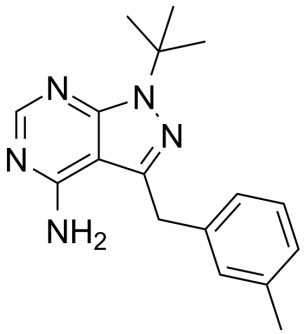
3MB-PP1

Cat. No.:	HY-102069
CAS No.:	956025-83-5
Molecular Formula:	$C_{17}H_{21}N_5$
Molecular Weight:	295.38
Target:	Polo-like Kinase (PLK); CDK; DAPK
Pathway:	Cell Cycle/DNA Damage; Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (338.55 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.3855 mL	16.9273 mL	33.8547 mL
5 mM	0.6771 mL	3.3855 mL	6.7709 mL
10 mM	0.3385 mL	1.6927 mL	3.3855 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.46 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.46 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.46 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

3MB-PP1, a bulky purine analog, is a Polo-like kinase 1 (Plk1) inhibitor. 3MB-PP1 blocks mitotic progression and cell division arise through target Plk1 in in cells expressing analog-sensitive Plk1 alleles. 3MB-PP1 specifically inhibits the activity of analog-sensitive Ssn3 (Cdk8). 3MB-PP1 inhibits Leu93 Mutant Zipper-interacting protein kinase (Leu93-ZIPK; IC_{50}=2 μM). 3MB-PP1 can be used for the research of hypha formation of Candida albicans and cell division[1][2][3].

IC_{50} & Target

Leu93-ZIPK
2 μM (IC_{50})

In Vitro	3MB-PP1 (5 μM; 3 hours) stimulates hyphal growth in a strain bearing analog-sensitive alleles of SSN3[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Burkard ME, et al. Enabling and disabling polo-like kinase 1 inhibition through chemical genetics. ACS Chem Biol. 2012 Jun 15;7(6):978-81.

[2]. Hollomon JM, et al. The Candida albicans Cdk8-dependent phosphoproteome reveals repression of hyphal growth through a Flo8-dependent pathway. PLoS Genet. 2022;18(1):e1009622. Published 2022 Jan 4.

[3]. Al-Ghabkari A, et al. Validation of chemical genetics for the study of zipper-interacting protein kinase signaling. Proteins. 2018 Nov;86(11):1211-1217.

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