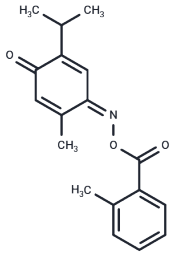
Data Sheet (Cat.No.T16560)

TargetMol

Poloxin

Chemical Properties



CAS No. : 321688-88-4

Formula: C18H19NO3

Molecular Weight: 297.35

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Poloxin is a non-ATP competitive Polo-like Kinase 1 inhibitor targeting the polo-box domain (IC50: appr 4.8 μM).
Targets(IC50)	PLK
In vitro	Poloxin inhibits proliferation in both cell lines with a comparable efficiency through a 72 h period. Poloxin inhibits the polo-box domain (PBD) interaction (apparent IC50: ~4.8 μM). Poloxin (25 μM) causes defects in centrosome integrity, spindle formation, and chromosome alignment in mitosis. Centrosomal fragmentation induced by Poloxin is partially rescued by Kiz T379E. Poloxin (25 μM) activates the mitotic checkpoint, induces apoptosis and inhibits proliferation of MDA-MB-231 cells. Poloxin shows a loose Plk1 PBD specificity with 4-10 times higher IC50 values for Plk2 and Plk3, and does not significantly inhibit other types of phosphopeptide-binding domains such as FHA, WW, and SH2 domains[1][2][3].
In vivo	Poloxin (40 mg/kg) reduces the proliferation of MDA-MB-231 cells. It also suppresses the growth of the tumor nude mice bearing established xenografts of MDA-MB-231[1].

Solubility Information

Solubility	DMSO: 14 mg/mL (47.08 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (3.36 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.363 mL	16.8152 mL	33.6304 mL
5 mM	0.6726 mL	3.363 mL	6.7261 mL
10 mM	0.3363 mL	1.6815 mL	3.363 mL
50 mM	0.0673 mL	0.3363 mL	0.6726 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Yuan J, et al. Polo-box domain inhibitor poloxin activates the spindle assembly checkpoint and inhibits tumor growth in vivo. Am J Pathol. 2011 Oct;179(4):2091-9.
Sanhaji M, et al. p53 is not directly relevant to the response of Polo-like kinase 1 inhibitors. Cell Cycle. 2012 Feb 1; 11(3):543-53.
Lee KS, et al. Pinning down the polo-box domain. Chem Biol. 2008 May;15(5):415-6.
Reindl W, et al. Inhibition of polo-like kinase 1 by blocking polo-box domain-dependent protein-protein interactions. Chem Biol. 2008 May;15(5):459-66.

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