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Poloxin

Catalog No: tcsc0668

Available Sizes

Size: 10mg

Size: 50mg

Specifications

CAS No:
321688-88-4

Formula:
$C_{18}H_{19}NO_3$

Pathway:
Cell Cycle/DNA Damage

Target:
Polo-like Kinase (PLK)

Purity / Grade:
>98%

Solubility:
DMSO : 14.29 mg/mL (48.06 mM; Need ultrasonic)

Observed Molecular Weight:
297.35

Product Description

Poloxin is a non-ATP competitive **Polo-like Kinase 1 (PLK1)** inhibitor that targets the polo-box domain, with an **IC_{50}** of appr 4.8 μM.

IC50 & Target: IC50: ~4.8 μM (PLK1 PBD), 18.7 μM (PLK2 PBD), 53.9 μM (PLK3 PBD)[4]

In Vitro: Poloxin (25 μM) induces 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[1]. Poloxin inhibits proliferation in both cell lines with a comparable efficiency through 72 h period[2]. Poloxin inhibits the polo-box domain (PBD) interaction with an apparent IC_{50} of ~4.8 μM. Poloxin exhibits a loose Plk1 PBD specificity with 4-10 times higher IC_{50} values for Plk2 and Plk3, and does not significantly inhibit other types of phosphopeptide-binding domains such as FHA, WW, and SH2 domains[3].

In Vivo: Poloxin (40 mg/kg) decreases the proliferation of MDA-MB-231 cells, and surpresses the growth of the tumor nude mice bearing established xenografts of MDA-MB-231[1].