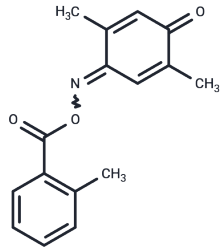
# Data Sheet (Cat.No.T25969)

TargetMol

## Poloxin-2

### Chemical Properties



CAS No. : 321695-37-8

Formula: C16H15NO3

Molecular Weight: 269.3

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

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|---|---|
| Description | Poloxin-2 is a potent and selective Plk1 PBD inhibitor with anti-tumour activity that reduces the protein level of Plk1 in HeLa cells. |
| Targets(IC50) | PLK |
| In vitro | Poloxin-2 increases neurite differentiation of rat NPCs in a dose-dependent manner (EC50=~1 μM) in adherent culture.<br>Under neural sphere-forming conditions, Poloxin-2 (1.5-5 μM) induces neuronal formation in secondary neurospheres derived from adult rat hippocampus and subventricular zone (SVZ) (40-60% TuJ1+ cells).Furthermore, hippocampal NPCs treated with Poloxin-2and cultured on microelectrode arrays for 12 days exhibit neuronal morphology and spontaneous spike activity, indicating the presence of functional, mature neurons[2].In comparison to cells treated with the carrier (dimethyl sulfoxide, DMSO),Poloxin-2 significantly attenuates the growth of tumor cells.TACC3 is a known target of Poloxin-2 in rodent neural progenitor cells. Poloxin-2 has been shown to induce instability in cells expressing TACC3, leading to a gradual reduction in endogenous TACC3 protein levels over time[1]. |
| In vivo | In tumors treated with Poloxin-2, there is a significant reduction in tumor cell proliferation (approximately two-fold decrease). Compared to tumors treated with the carrier control, Poloxin-2-treated tumors show signs of increased cell death (reduced cell structures/increased condensation).<br>Poloxin-2treatment markedly reduces the expansion of frontal-to-tail tumor growth and corpus callosum invasion in waveform protein-positive GBM1 cells. It was also observed that the survival rate of animals carrying GBMX1 tumors (established 2 or 6 weeks prior to treatment) significantly increases with the 10-week Poloxin-2treatment regimen. No mouse had to be removed from the study due to adverse effects of the treatment.<br>Another experiment using continuous Poloxin-2 treatment until the endpoint also shows a significant increase in the survival rate of animals carrying GBMX1 tumors. Histopathological endpoint analysis of animals treated with Poloxin-2 and the vehicle confirms a significant reduction in tumor size in Poloxin-2-treated mice[1]. |

### Solubility Information

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|---|---|
| Solubility | DMSO: 12.5 mg/mL (46.42 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 3.7133 mL | 18.5667 mL | 37.1333 mL |
| 5 mM | 0.7427 mL | 3.7133 mL | 7.4267 mL |
| 10 mM | 0.3713 mL | 1.8567 mL | 3.7133 mL |
| 50 mM | 0.0743 mL | 0.3713 mL | 0.7427 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

Polson ES, et al. KHS101 disrupts energy metabolism in human glioblastoma cells and reduces tumor growth in mice. Sci Transl Med. 2018 Aug 15;10(454). pii: eaar2718.

Wurdak H, et al. A small molecule accelerates neuronal differentiation in the adult rat. Proc Natl Acad Sci U S A. 2010 Sep 21;107(38):16542-7.