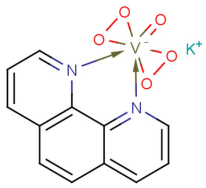
Data Sheet (Cat.No.T10594)

TargetMol
A DRUG SCREENING EXPERT

bpV(phen)

Chemical Properties



CAS No.:	42494-73-5
Formula:	C12H8KN2O5V
Molecular Weight:	350.24
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	bpV(phen) is a potent protein tyrosine phosphatase (PTP) and PTEN inhibitor (IC50s: 343 nM, 920 nM, and 38 nM for PTP-β, PTP-1B, and PTEN).
Targets(IC_{50})	PTEN: 38 nM PTP-β: 343 nM PTP-1B: 920 nM
In vitro	bpV(phen) (5 μM; 24.5 hours; H9c2 cells) treatment causes a further decrease of cell viability in H/R-injured H9c2 cells and increases the apoptosis of H/R-injured H9c2 cells. bpV(phen) (5 μM; 24.5 hours; H9c2 cellfs) treatment significantly promotes the accumulation of cytoplasmic Cytochrome C in H/R-injured H9c2 cells. After stimulation of bpV(phen), PTEN-induced putative kinase protein 1 (PINK1)/Parkin-mediated mitophagy is inhibited [1].
In vivo	bpV(phen) (5 mg/kg; i.p.; daily; for 38 days; male BALB/c nude (nu/nu) athymic mice) treatment causes a significant reduction in average tumor volume [1].

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.855 mL	14.276 mL	28.552 mL
5 mM	0.571 mL	2.855 mL	5.71 mL
10 mM	0.286 mL	1.428 mL	2.855 mL
50 mM	0.057 mL	0.286 mL	0.571 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Tang W, et al. PTEN-mediated mitophagy and APE1 overexpression protects against cardiac hypoxia/reoxygenation injury. In Vitro Cell Dev Biol Anim. 2019 Oct;55(9):741-748.
2. Caron D, et al. Protein tyrosine phosphatase inhibition induces anti-tumor activity: evidence of Cdk2/p27 kip1 and Cdk2/SHP-1 complex formation in human ovarian cancer cells. Cancer Lett. 2008 Apr 18;262(2):265-75.
3. Schmid AC, et al. Bisperoxovanadium compounds are potent PTEN inhibitors. FEBS Lett. 2004 May 21;566(1-3):35-8.
4. Band CJ, et al. Early signaling events triggered by peroxovanadium [bpV(phen)] are insulin receptor kinase (IRK)-dependent: specificity of inhibition of IRK-associated protein tyrosine phosphatase(s) by bpV(phen). Mol Endocrinol. 1997 Dec;11(13):1899-910.
5. Chen Q, et al. Potassium Bisperoxo(1,10-phenanthroline)oxovanadate (bpV(phen)) Induces Apoptosis and Pyroptosis and Disrupts the P62-HDAC6 Protein Interaction to Suppress the Acetylated Microtubule-dependent Degradation of Autophagosomes. J Biol Chem. 2015 Oct 23;290(43):26051-8.

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