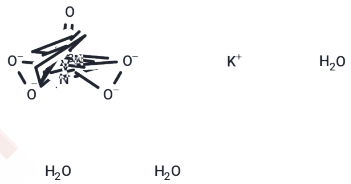
Data Sheet (Cat.No.T41339)

TargetMol

BpV(phen) trihydrate

Chemical Properties



CAS No. : 171202-16-7

Formula: C12H14KN2O8V

Molecular Weight: 404.29

Storage: Store at low temperature
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	BpV(phen) trihydrate is an insulin mimic and an effective PTP and PTEN inhibitor, with an IC50 of 38/343/920 nM for PTEN/PTP-β/PTP-1B, and has inhibitory activity against leishmania, can induce apoptosis and promote the secretion of pro-inflammatory factors, activate the Th1 pathway, and has anti-angiogenic and anti-tumor activity.
Targets(IC50)	Apoptosis,PTEN,Parasite,Phosphatase
In vitro	Bpv(phen) (5 mg/kg; intraperitoneal injection; daily; for 38 days; male BALB/c nude (nu/nu) athymic mice) treatment causes a significant reduction in average tumor volume[1].
In vivo	Bpv(phen) (5 μM; 24.5 hours; H9c2 cells) reduces survival rates and promotes apoptosis in hypoxia/reperfusion-injured H9c2 cells, facilitating the accumulation of cytochrome C in the cytoplasm [1]. Bpv(phen), an insulin-like substance, exerts its effects through hyperphosphorylation and activation of insulin receptor tyrosine kinase [4].

Solubility Information

Solubility	H2O: 80 mg/mL (197.88 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4735 mL	12.3674 mL	24.7347 mL
5 mM	0.4947 mL	2.4735 mL	4.9469 mL
10 mM	0.2473 mL	1.2367 mL	2.4735 mL
50 mM	0.0495 mL	0.2473 mL	0.4947 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

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.
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.
Schmid AC, et al. Bisperoxovanadium compounds are potent PTEN inhibitors. FEBS Lett. 2004 May 21;566(1-3):35-8.
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
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. 201