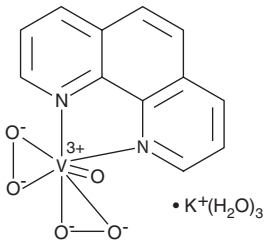
PRODUCT INFORMATION

bpV(phen) (potassium hydrate)

Item No. 13331

CAS Registry No.:	171202-16-7
Formal Name:	(PB-7-23-111'1'3)-oxodiperoxy(1,10-phenanthroline-κN^{1},κN^{10})-vanadate(1-), potassium trihydrate
Synonyms:	Bisperoxovanadium(phen), Potassium Bisperoxo(1,10-phenanthroline) oxovanadate (V)
MF:	$C_{12}H_8N_2O_5V \bullet K+(H_2O)_3$
FW:	404.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 224, 272 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

bpV(phen) (potassium hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the bpV(phen) (potassium hydrate) in the solvent of choice, which should be purged with an inert gas. bpV(phen) (potassium hydrate) is soluble in the organic solvent DMSO at a concentration of approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of bpV(phen) (potassium hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of bpV(phen) (potassium hydrate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

bpV(phen) is a bisperoxovanadium (bpV) compound which inhibits several different protein tyrosine phosphatases (PTPs), with selectivity for PTEN (IC_{50} = 38 nM).[1,2] It also inhibits the vascular endothelial PTP, PTP-β (IC_{50} = 343 nM), and PTP-1β (IC_{50} = 920 nM).[2,3] At 0.1 mM, bpV(phen) inhibits SH2 domain-containing inositol 5'-phosphatase-2.[4] Presumably by inhibiting insulin receptor kinase-associated PTPs, bpV(phen) activates the insulin receptor tyrosine kinase and promotes downstream signaling, including activation of PI3-kinase.[5-7]

References

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