

Sodium orthovanadate

Catalog No: tcsc5134



Available Sizes

Size: 5g



Specifications

CAS No:

13721-39-6

Formula:

$\text{Na}_3\text{O}_4\text{V}$

Pathway:

Metabolic Enzyme/Protease

Target:

Phosphatase

Purity / Grade:

>98%

Solubility:

H₂O : ≥ 200 mg/mL (1087.49 mM)

Alternative Names:

Sodium vanadate

Observed Molecular Weight:

183.91

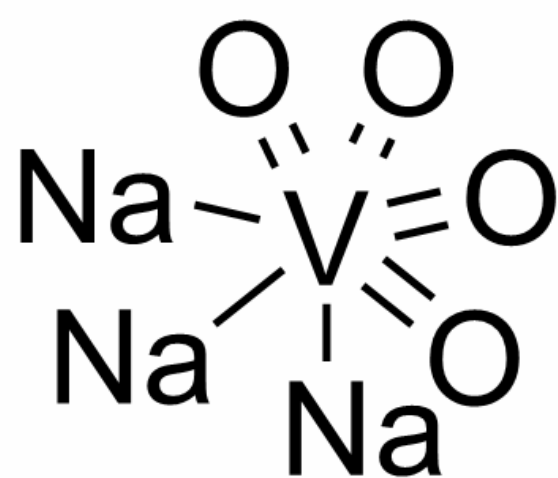
Product Description

Sodium orthovanadate is an inhibitor of protein tyrosine phosphatases, alkaline phosphatases and a number of ATPases, most likely acting as a phosphate analogue.

IC₅₀ & Target: PPTase^[1].

In Vitro:

In the presence of oxidizing agents vanadium ions exist as the hydrated monomer of Sodium orthovanadate (vanadate: HVO_4^{2-} or H_2VO_4^-) at micromolar concentrations near neutral pH. Sodium orthovanadate (vanadate) also begins to polymerize at concentrations greater than 0.1 mM at neutral pH. The yellow-orange solutions of decavanadate can be converted to the colorless solutions of monomeric Sodium orthovanadate (vanadate) by dilution after a period of many hours. The process is hastened by boiling at pH 10, which encourages the kinetically sluggish depolymerization process^[1]. Sodium orthovanadate could alter the phosphorylation status of ASK1 at serine 83 and threonine 845 induced by ischemia. Sodium orthovanadate could increase the tyrosine phosphorylation of PTEN and further inhibit the activation of ASK1 via activating Akt during cerebral ischemia^[2].



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