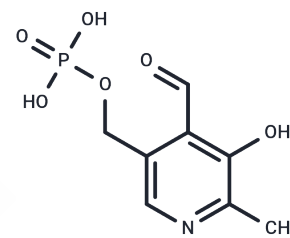


Pyridoxal phosphate

Chemical Properties

CAS No. :	54-47-7
Formula:	C ₈ H ₁₀ NO ₆ P
Molecular Weight:	247.14
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

Description	Pyridoxal phosphate (Vitamin B6 phosphate) is the active form of vitamin B6 and a coenzyme for many pyridoxal phosphate (PLP)-dependent enzymes. PLP is involved in numerous enzymatic transamination, decarboxylation and deamination reactions; it is necessary for the synthesis of amino acids and amino acid metabolites, and for the synthesis and/or catabolism of certain neurotransmitters, including the conversion of glutamate into gamma-aminobutyric acid (GABA) and levodopa into dopamine. PLP can be used as a dietary supplement in cases of vitamin B6 deficiency. Reduced levels of PLP in the brain can cause neurological dysfunction.
Targets(IC50)	ERK,Beta Amyloid,Reverse Transcriptase,Endogenous Metabolite
In vitro	Pyridoxal phosphate results in an immediate reduction in the rate of DNA synthesis. Pyridoxal 5'-phosphate severely inhibits the DNA Polymerase and RNase H. Conjugation to pyridoxal phosphate fully inhibits NEIL2. Pyridoxal phosphate-conjugated NEIL2 shows much lower activity than the intact enzyme over a wide range of enzyme/substrate ratios. After Pyridoxal phosphate conjugation, the ability of NEIL2 to bind the THF-ligand is completely lost.

Solubility Information

Solubility	DMSO: 250 mg/mL (1011.57 mM),Sonication is recommended. H2O: 20.23 mM,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2.5 mg/mL (10.12 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.0463 mL	20.2314 mL	40.4629 mL
5 mM	0.8093 mL	4.0463 mL	8.0926 mL
10 mM	0.4046 mL	2.0231 mL	4.0463 mL
50 mM	0.0809 mL	0.4046 mL	0.8093 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

Modak MJ. Pyridoxal 5' phosphate: a selective inhibitor of oncornaviral DNA polymerases. *Biochem Biophys Res Commun.* 1976 Jul 12;71(1):180-7.

Grin IR, et al. Inactivation of NEIL2 DNA glycosylase by pyridoxal phosphate reveals a loop important for substrate binding. *Biochem Biophys Res Commun.* 2010 Mar 26;394(1):100-5.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481