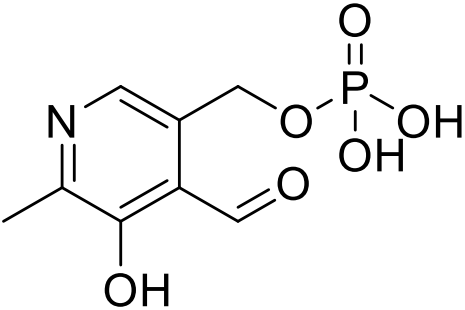


Product data sheet



MedKoo Cat#: 529501 Name: Pyridoxyl phosphate CAS#: 54-47-7 Chemical Formula: C ₈ H ₁₀ NO ₆ P Exact Mass: 247.0246 Molecular Weight: 247.14	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Pyridoxal phosphate is the active form of vitamin B6.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	10	40.46
Water	6	24.28

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.05 mL	20.23 mL	40.46 mL
5 mM	0.81 mL	4.05 mL	8.09 mL
10 mM	0.40 mL	2.02 mL	4.05 mL
50 mM	0.08 mL	0.40 mL	0.81 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

- Ajumeera R, Thipparapu G, Padya BS, Tirumala L, Challa S. Anti-cancer activity of pyridoxal phosphate and metformin combination in human pancreatic cancer cells. *Nutr Health*. 2022 Nov 8;2601060221137624. doi: 10.1177/02601060221137624. Epub ahead of print. PMID: 36349362.
- Xie F, Li G, Wang Y, Zhang Y, Zhou L, Wang C, Liu S, Liu S, Wang C. Pyridoxal phosphate synthases PdxS/PdxT are required for *Actinobacillus pleuropneumoniae* viability, stress tolerance and virulence. *PLoS One*. 2017 Apr 27;12(4):e0176374. doi: 10.1371/journal.pone.0176374. PMID: 28448619; PMCID: PMC5407770.

In vivo study

- Olofinnade AT, Onaolapo TM, Oladimeji S, Fatoki AM, Balogun CI, Onaolapo AY, Onaolapo OJ. An Evaluation of the Effects of Pyridoxal Phosphate in Chlorpromazine-induced Parkinsonism using Mice. *Cent Nerv Syst Agents Med Chem*. 2020;20(1):13-25. doi: 10.2174/1871524920666200120142508. PMID: 31987026.
- Grin IR, Rieger RA, Zharkov DO. 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. doi: 10.1016/j.bbrc.2010.02.121. Epub 2010 Feb 20. PMID: 20175991; PMCID: PMC2857644.

7. Bioactivity

Biological target:

Product data sheet



Pyridoxal phosphate acts as a coenzyme in all transamination reactions, and in certain decarboxylation, deamination, and racemization reactions of amino acids.

In vitro activity

This study investigated the ability of pyridoxal phosphate to inhibit bifunctional DNA repair glycosylases. Pyridoxal phosphate significantly inhibited endonuclease VIII-like protein 2 (NEIL2). Pyridoxal phosphate-conjugated NEIL2 completely lost its ability to bind damaged DNA.

Reference: Biochem Biophys Res Commun. 2010 Mar 26;394(1):100-5. <https://pubmed.ncbi.nlm.nih.gov/20175991/>

In vivo activity

Pyridoxal phosphate supplementation was associated with significant benefits in Chlorpromazine (CPZ)-induced Parkinsonism-like changes in mice. Pyridoxal phosphate supplementation was associated with a reduction in CPZ-induced suppression of open-field horizontal locomotion and rearing and a significant increase in grooming activity. A pyridoxal phosphate-supplemented diet was associated with working-memory in CPZ-treated mice and a reduction of anxiety and catalepsy score.

Reference: Cent Nerv Syst Agents Med Chem. 2020;20(1):13-25. <https://pubmed.ncbi.nlm.nih.gov/31987026/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.