Product data sheet

MedKoo Cat#: 329469	
Name: Pyridoxine free base	
CAS#: 65-23-6 (free base)	
Chemical Formula: $C_8H_{11}NO_3$	
Exact Mass: 169.0739	
Molecular Weight: 169.18	
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:

Pyridoxine (also called pyridoxol, not to be confused with pyridoxal) is one form of vitamin B6. Its hydrochloride salt, pyridoxine hydrochloride, is used as a vitamin B6 dietary supplement.

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
DMF	0.25	1.48
DMSO	10	59.11

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	5.91 mL	29.55 mL	59.11 mL
5 mM	1.18 mL	5.91 mL	11.82 mL
10 mM	0.59 mL	2.96 mL	5.91 mL
50 mM	0.12 mL	0.59 mL	1.18 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

1. Li C, Wang R, Hu C, Wang H, Ma Q, Chen S, He Y. Pyridoxine exerts antioxidant effects in cell model of Alzheimer's disease via the Nrf-2/HO-1 pathway. Cell Mol Biol (Noisy-le-grand). 2018 Jul 30;64(10):119-124. PMID: 30084803.
2. Vrolijk MF, Opperhuizen A, Jansen EHJM, Hageman GJ, Bast A, Haenen GRMM. The vitamin B6 paradox: Supplementation with high concentrations of pyridoxine leads to decreased vitamin B6 function. Toxicol In Vitro. 2017 Oct;44:206-212. doi: 10.1016/j.tiv.2017.07.009. Epub 2017 Jul 14. PMID: 28716455.

In vivo study

1. Kendir-Demirkol Y, Jenny LA, Demirkol A, Özen M, Ayata A, Canatan D. The Protective Effects of Pyridoxine on Linezolid-Induced Hematological Toxicity, Hepatotoxicity, and Oxidative Stress in Rats. Turk Arch Pediatr. 2023 May;58(3):298-301. doi: 10.5152/TurkArchPediatr.2023.21363. PMID: 37144263; PMCID: PMC10210608.
2. Gondim-Silva KR, da-Silva JM, de Souza LAV, Guedes RCA. Neonatal pyridoxine administration long lastingly accelerates cortical spreading depression in male rats, without affecting anxiety-like behavior. Nutr Neurosci. 2021 May;24(5):363-370. doi: 10.1080/1028415X.2019.1632570. Epub 2019 Jun 21. PMID: 31221041.

7. Bioactivity

Biological target:

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Pyridoxine is a water-soluble vitamin, and its active form, pyridoxal phosphate (PLP), serves as a coenzyme in several enzyme-catalyzed reactions. Pyridoxine primarily targets enzymes that rely on PLP as a cofactor to facilitate specific biochemical reactions.

In vitro activity

In this cell model of Alzheimer's disease, pyridoxine exerted a protective potential against Alzheimer's disease, attenuated ROS levels, decreased the expressions of cytoplasmic Nrf2, and upregulated whole-cell HO-1 expression.

Reference: Cell Mol Biol (Noisy-le-grand). 2018 Jul 30;64(10):119-124. https://pubmed.ncbi.nlm.nih.gov/30084803/

In vivo activity

Pyridoxine may be an effective adjuvant agent for the prevention of linezolid toxicity in rat models. Linezolid plus pyridoxine treatment caused a significant decrease in malondialdehyde levels and superoxide dismutase, catalase, and glutathione peroxidase enzyme activities compared to the linezolid only group ($P < .001$, $P < .01$, $P < .001$, and $P < .01$, respectively).

Reference: Turk Arch Pediatr. 2023 May;58(3):298-301. https://pubmed.ncbi.nlm.nih.gov/37144263/

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.