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Zuschläge

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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

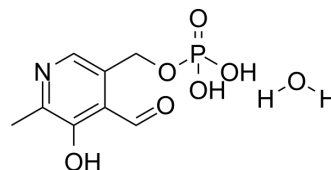
mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

Pyridoxal 5'-phosphate monohydrate

Cat. No.:	HY-W011727A
CAS No.:	41468-25-1
Molecular Formula:	C ₈ H ₁₂ NO ₇ P
Molecular Weight:	265.16
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 5.56 mg/mL (20.97 mM; ultrasonic and warming and heat to 60°C)					
	DMSO : 5 mg/mL (18.86 mM; ultrasonic and warming and heat to 60°C)					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		3.7713 mL	18.8565 mL	37.7131 mL
5 mM			0.7543 mL	3.7713 mL	7.5426 mL	
	10 mM		0.3771 mL	1.8857 mL	3.7713 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 0.5 mg/mL (1.89 mM); Clear solution 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 0.5 mg/mL (1.89 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	Pyridoxal 5'-phosphate hydrate, the active form of vitamin B6, is an essential cofactor for multiple enzymes, including aromatic l-amino acid decarboxylase that catalyzes the final stage in the production of the neurotransmitters dopamine and serotonin. Pyridoxal 5'-phosphate hydrate is the most important coenzyme variant in the process of vitamin B6 intracellular phosphorylation and is interconvertible with other variants, including pyridoxine 5'-phosphate (PNP) and pyridoxamine 5'-phosphate (PMP) ^{[1][2]} .
IC₅₀ & Target	IC50: active form of vitamin B6 ^[1]

CUSTOMER VALIDATION

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- Nat Immunol. 2023 Jan;24(1):162-173.

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REFERENCES

[1]. Allen GF, et al. Pyridoxal 5'-phosphate deficiency causes a loss of aromatic L-amino acid decarboxylase in patients and human neuroblastoma cells, implications for aromatic L-amino acid decarboxylase and vitamin B(6) deficiency states. J Neurochem. 2010 Jul;114(1):87-96.

[2]. Calderón-Ospina CA, et al. B Vitamins in the nervous system: Current knowledge of the biochemical modes of action and synergies of thiamine, pyridoxine, and cobalamin. CNS Neurosci Ther. 2020 Jan;26(1):5-13.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA