PLP phosphatase Protein, Mouse (P.pastoris, His)

Cat. No.:	HY-P71768
Synonyms:	Pdxp; Cin; Plp; Plpp; Pyridoxal phosphate phosphatase; PLP phosphatase; Chronophin
Species:	Mouse
Source:	P. pastoris
Accession:	P60487 (1M-292D)
Gene ID:	57028
Molecular Weight:	Approximately 33.5 kDa

PROPERTIES

AA Sequence	MARCERLRGA ALRDVLGQAQ GVLFDCDGVL WNGERIVPGA PELLQRLARA GKNTLFVSNN SRRARPELAL RFARLGFAGL RAEQLFSSAL CAARLLRQRL SGPPDASGAV FVLGGEGLRA ELRAAGLRLA GDPGEDPRVR AVLVGYDEQF SFSRLTEACA HLRDPDCLLV ATDRDPWHPL SDGSRTPGTG SLAAAVETAS GRQALVVGKP SPYMFQCITE DFSVDPARTL MVGDRLETDI LFGHRCGMTT VLTLTGVSSL EEAQAYLTAG QRDLVPHYYV ESIADLMEGL ED
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	PLP phosphatase protein serves a dual function by acting as a pyridoxal phosphate (PLP) phosphatase, catalyzing the dephosphorylation of pyridoxine 5'-phosphate (PNP) and pyridoxamine 5'-phosphate (PMP) with a substrate preference order of PLP > PNP > PMP. This dual enzymatic activity positions it as a key player in vitamin B6 metabolism. Additionally,

PLP phosphatase functions as a protein serine phosphatase, specifically targeting 'Ser-3' in proteins of the actin-depolymerizing factor (ADF)/cofilin family, including CFL1 and DSTN. This regulation of cofilin-dependent actin cytoskeleton reorganization is crucial for normal progression through mitosis and cytokinesis. Notably, PLP phosphatase does not dephosphorylate phosphothreonines in LIMK1, and it does not act on peptides containing phosphotyrosine. The multifaceted role of PLP phosphatase highlights its importance in both vitamin B6 metabolism and the dynamic regulation of the actin cytoskeleton, contributing to essential cellular processes.

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