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Antibodies to Poly Inositol Polyphosphate Phosphatase (Minpp)

Polyinositol phosphate Phosphatase (MInPP) Antibodies (Minpp-101AP, P-Minpp and PC-Minpp)

Other Nomenclature: Neural precursor cell expressed developmentally down-regulated protein 4.

Multiple inositol polyphosphatase is only enzyme known to hydrolyze the abundant metabolites of phosphorylated inositol signaling molecule inositol penta- and hexa-phosphates. Sequence analysis of plant and fruit fly MINPP homologs supports the hypothesis that the MINPP enzymes constitute a distinct evolutionary group within the histidine phosphatase family. Minpp chicken homolog is a histidine phosphatase HiPER1 that has a role on growth plate chondrocyte differentiation. The human and murine homolog of Minpp1 mRNA expression was found in variety of tissues compared to much restricted expression of chick homolog HiPER1. The murine and human Minpp is 80% homologous to rat protein and 56% to HiPER (1). During osteogenesis in growth plate chondrocytes the levels of Minpp initially increase 2-3fold and then reduced to the basal levels with a concomitant decrease in Ins5 but no change in Ins6 levels in ATDC5 cells (2). The Minpp1 is largely a endoplasmic reticulum associated protein, however, a truncated for Minpp1 has been shown in the cytoplasm of cells that might be involved in conversion of Ins5 and Ins6 in to a Ca second messenger 1, 4, 5 inositol triphosphate in independent inositol lipid breakdown. Minpp1 is compartmentalized in the endoplasmic reticulum (ER) lumen. The Minpp-deficient mice are viable, fertile and without obvious defect but have 30-40% higher Ins5 and Ins6 levels that are reduced to normal by reintroducing Minpp. Reintroduction of Minpp led to generation of a truncated Minpp-cytosolic form, lacking its Er targeting N-terminus that dephosphorylates the polyinositol phosphates (3).

The human Minpp1 is localized on human chromosome10q23, the assignment of Minpp1 on chromosome 10 places it proximal to tumor suppressor protein Pten on chromosome 10 that is most frequently mutated in cancer (4). The comparison of human Minpp1 and chick HiPER1 revealed significant homology in the core protein but the ER targeting domain was divergent. The catalytic domain has a Histidine, replacing with Alanine led to complete loss of activity (5). Minpp1 is a 487amino acid protein, approximately 58kDa, is expressed in multiple splice variant forms.

The Minpp1-selective antibodies were generated against synthetic peptide corresponding to residues 26-46 of the human Minpp1 (the peptide sequence is conserved in rat Minpp1). The antibodies to Minpp1 are affinity purified over immobilized antigen based affinity chromatography. The purified antibodies are stabilized in antibody stabilization buffer containing preservatives. FabGennix Int. Inc., also provide western blot positive control for Minpp1 in ready-to-use buffer and limited quantities of antigenic blocking peptide is also available, please inquire about pricing and availability. FabGennix also carries many antibodies to receptor and non-receptor kinases and phosphatase, for a complete listing please visit www.FabGennix.com. FabGennix Inc. will also conjugate antibodies with fluorescent probes upon request at a reasonable cost.

Catalog #	Host Species	Nature	Cross reactivity	Quantity	Vol
Minpp-101AP	Rabbit	Affinity purified Minpp antibodies	rat, mouse	100 ug	200ul
P-Minpp	n/a	Antigenic blocking peptide for Minpp-101AP	n/a	250ug	100ul
PC-Minpp	n/a	Western blot positive control for Minpp	n/a	5 appl	inquire

R = rat; M = mouse; H = human; C = chicken; monk = monkey ; * not all variants are labeled equally

Immunogen: Synthetic peptide from amino acids 26-46 corresponding rat Minpp1 protein. The synthetic peptide was post-synthetically modified to achieve highest antigenicity before used for coupling to KLH using heterobifunctional cross linker for immunogen preparation.

Concentration: Minpp-101AP Ig concentration 0.51-62 mg/ml in antibody stabilization buffer.

Applications: Minpp-101AP antibody is ideal for IMM/WB applications for detection of endogenous and Minpp1 protein in various cell lines. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions. Laboratory. Western blotting: > 1:500; IMM: Immunoprecipitation 1:200 recommended; IHC = nd

Reactivity: This antibody detects two bands of approximately 55-60kDa protein in PC-Minpp samples and a 58 kDa protein in tissue extracts. The difference in molecular weight. The antibody also labels a 105 kDa bands in PC-Nedd4 and in cells probably represents either an uncharacterized variant of Nedd4 or a phosphorylated Nedd3 protein. Further experiments are needed to address these possibilities.

Protocols: Standard protocol for various applications (WB; IMM and IHC) of this antibody is provided with the product specification sheet, however, FabGennix Inc. strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.

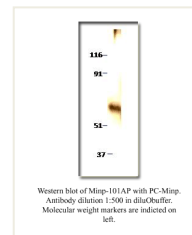
Notes: Briefly centrifuge to collect liquid before opening the vial, heat the PC-Minpp1 tube in 90°C water bath for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher molecular weight immunoreactive bands.

Note: Now you can recycle your western blots (nitrocellulose, supported membranes and PVDF membranes) by using our StripOBuffer (Cat # FGI-1989). Each stripping is guaranteed to give better signal (up to 8 stripping). No strong pungent smell of reducing agents or heating is required.

Form/Storage: The antiserum is supplied in antibody stabilization buffer with 0.02% sodium azide as preservatives. The affinity-purified antibodies are purified on antigen-spharose affinity column and supplied as stabilized antibody. For long-term storage of antibodies, store at -20°C. FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45µm filter after every use for long-term storage.

References:

1. P. DAHIA, O. GIMM, H. CHI, D. MARSH, P. REYNOLDS, and C. ENG. Absence of germline mutations in MINPP1, a phosphatase encoding gene centromeric of PTEN, in patients with Cowden and Bannayan-Riley-Ruvalcaba syndrome without germline PTEN mutations. *J Med Genet.* 2000 September; 37(9): 715-717.
2. Hongbo Chi, Xiaonian Yang, Paul D. Kingsley, Regis J. O'Keefe, J. Edward Puzas, Randy N. Rosier, Stephen B. Shears, and Paul R. Reynolds *Mol Cell Biol.* 2000 September; 20(17): 6496-6507.
3. Jorune Balciuniene, Ningping Feng, Kelly Iyadurai, Betsy Hirsch, Lawrence Charnas, Brent R. Bill, Mathew C. Easterday, Johan Staaf, LeAnn Oseth, Desiree Czapanzky-Beilman, Dimitri Avramopoulos, George H. Thomas, Åke Borg, David Valle, Lisa A. Schimmenti, and Scott B. Selleck. Recurrent 10q22-q23 Deletions: A Genomic Disorder on 10q Associated with Cognitive and Behavioral Abnormalities. *Am J Hum Genet.* 2007 May; 80(5): 938-947. Published online 2007 March 20.



For users who may require large amounts of Minpp-101AP, please enquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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