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MIPP Polyclonal Antibody

Catalog # AP70950

Product Information

Application	WB, IHC-P
Primary Accession	Q9UNW1
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	55051

Additional Information

Gene ID	9562
Other Names	MINPP1; MIPP; Multiple inositol polyphosphate phosphatase 1; 2; 3-bisphosphoglycerate 3-phosphatase; 2, 3-BPG phosphatase; Inositol; 1, 3, 4, 5)-tetrakisphosphate 3-phosphatase; Ins(1, 3, 4, 5)P(4) 3-phosphatase
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/10000. Not yet tested in other applications. IHC-P~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

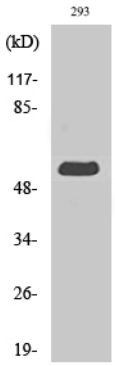
Name	MINPP1 (HGNC:7102)
Function	Multiple inositol polyphosphate phosphatase that hydrolyzes 1D-myo-inositol 1,3,4,5,6-pentakisphosphate (InsP5[2OH]) and 1D-myo-inositol hexakisphosphate (InsP6) to a range of less phosphorylated inositol phosphates. This regulates the availability of these various small molecule second messengers and metal chelators which control many aspects of cell physiology (PubMed:33257696, PubMed:36589890). Has a weak in vitro activity towards 1D-myo-inositol 1,4,5-trisphosphate which is unlikely to be physiologically relevant (PubMed:36589890). By regulating intracellular inositol polyphosphates pools, which act as metal chelators, it may control the availability of intracellular calcium and iron, which are important for proper neuronal development and homeostasis (PubMed:33257696). May have a dual substrate specificity, and function as a 2,3-bisphosphoglycerate 3-phosphatase hydrolyzing 2,3-bisphosphoglycerate to 2-phosphoglycerate. 2,3- bisphosphoglycerate (BPG) is formed as part of the Rapoport-Luebering glycolytic bypass and is a regulator of systemic oxygen homeostasis as the major allosteric effector of hemoglobin (PubMed:18413611).

Cellular Location	Endoplasmic reticulum lumen {ECO:0000250|UniProtKB:O35217}. Secreted Cell membrane {ECO:0000250|UniProtKB:Q9Z2L6}. Note=Also associated with the plasma membrane in erythrocytes. {ECO:0000250|UniProtKB:Q9Z2L6}
Tissue Location	Widely expressed with highest levels in kidney, liver, cerebellum and placenta.

Background

Acts as a phosphoinositide 5- and phosphoinositide 6- phosphatase and regulates cellular levels of inositol pentakisphosphate (InsP5) and inositol hexakisphosphate (InsP6). Also acts as a 2,3-bisphosphoglycerate 3-phosphatase, by mediating the dephosphorylation of 2,3-bisphosphoglycerate (2,3-BPG) to produce phospho-D-glycerate without formation of 3- phosphoglycerate. May play a role in bone development (endochondral ossification). May play a role in the transition of chondrocytes from proliferation to hypertrophy (By similarity).

Images



Western Blot analysis of various cells using MIPP Polyclonal Antibody