10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

MINPP1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14723b

Product Information

Application	WB, FC, E
Primary Accession	Q9UNW1
Other Accession	NP_001171588.1, NP_004888.2, NP_001171589.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34894
Calculated MW	55051
Antigen Region	370-398

Additional Information

Gene ID	9562
Other Names	Multiple inositol polyphosphate phosphatase 1, 3-bisphosphoglycerate 3-phosphatase, 3-BPG phosphatase, Inositol (1, 5)-tetrakisphosphate 3-phosphatase, Ins(1, 5)P(4) 3-phosphatase, MINPP1, MIPP
Target/Specificity	This MINPP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 370-398 amino acids from the C-terminal region of human MINPP1.
Dilution	WB~~1:1000 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MINPP1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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.

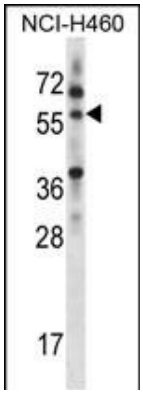
Background

This gene encodes multiple inositol polyphosphate phosphatase; an enzyme that removes 3-phosphate from inositol phosphate substrates. It is the only enzyme known to hydrolzye inositol pentakisphosphate and inositol hexakisphosphate. This enzyme also converts 2,3 bisphosphoglycerate (2,3-BPG) to 2-phosphoglycerate; an activity formerly thought to be exclusive to 2,3-BPG synthase/2-phosphatase (BPGM) in the Rapoport-Luebering shunt of the glycolytic pathway.

References

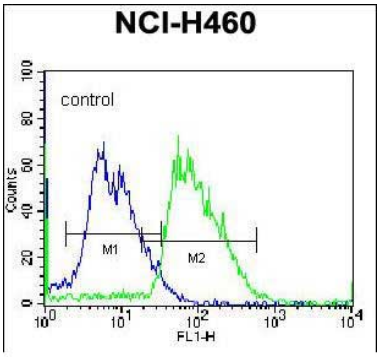
Newman, A.B., et al. J. Gerontol. A Biol. Sci. Med. Sci. 65(5):478-487(2010)
Cho, J., et al. Proc. Natl. Acad. Sci. U.S.A. 105(16):5998-6003(2008)
Lamesch, P., et al. Genomics 89(3):307-315(2007)
Grupe, A., et al. Am. J. Hum. Genet. 78(1):78-88(2006)
Liu, T., et al. J. Proteome Res. 4(6):2070-2080(2005)

Images



MINPP1 Antibody (C-term) (Cat. #AP14723b) western blot analysis in NCI-H460 cell line lysates (35ug/lane).This demonstrates the MINPP1 antibody detected the MINPP1 protein (arrow).

MINPP1 Antibody (C-term) (Cat. #AP14723b) flow cytometric analysis of NCI-H460 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated donkey-anti-rabbit secondary



antibodies were used for the analysis.