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

Anti-PNPT1 Antibody

Rabbit polyclonal antibody to PNPT1
Catalog # AP60123

Product Information

Application	WB, IHC
Primary Accession	Q8TCS8
Other Accession	Q8K1R3
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	85951

Additional Information

Gene ID	87178
Other Names	PNPASE; Polyribonucleotide nucleotidyltransferase 1 mitochondrial; 3'-5' RNA exonuclease OLD35; PNPase old-35; Polynucleotide phosphorylase 1; PNPase 1; Polynucleotide phosphorylase-like protein
Target/Specificity	Recognizes endogenous levels of PNPT1 protein.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200) IHC~~WB (1/500 - 1/1000), IHC (1/100 - 1/200)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	PNPT1 (HGNC:23166)
Synonyms	PNPASE
Function	RNA-binding protein implicated in numerous RNA metabolic processes (PubMed:29967381, PubMed:39019044). Catalyzes the phosphorolysis of single-stranded polyribonucleotides processively in the 3'-to-5' direction (PubMed:29967381, PubMed:39019044). Mitochondrial intermembrane factor with RNA-processing exoribonulease activity (PubMed:29967381, PubMed:39019044). Component of the mitochondrial degradosome (mtEXO) complex, that degrades 3' overhang double-stranded RNA with a 3'-to-5' directionality in an ATP-dependent manner (PubMed:29967381, PubMed:39019044). Involved in the degradation of non-coding mitochondrial transcripts (MT-ncRNA) and tRNA-like molecules (PubMed:29967381,

PubMed:39019044). Required for correct processing and polyadenylation of mitochondrial mRNAs. Plays a role as a cytoplasmic RNA import factor that mediates the translocation of small RNA components, like the 5S RNA, the RNA subunit of ribonuclease P and the mitochondrial RNA-processing (MRP) RNA, into the mitochondrial matrix. Plays a role in mitochondrial morphogenesis and respiration; regulates the expression of the electron transport chain (ETC) components at the mRNA and protein levels. In the cytoplasm, shows a 3'-to-5' exoribonuclease mediating mRNA degradation activity; degrades c-myc mRNA upon treatment with IFNB1/IFN-beta, resulting in a growth arrest in melanoma cells. Regulates the stability of specific mature miRNAs in melanoma cells; specifically and selectively degrades miR-221, preferentially. Also plays a role in RNA cell surveillance by cleaning up oxidized RNAs. Binds to the RNA subunit of ribonuclease P, MRP RNA and miR-221 microRNA.

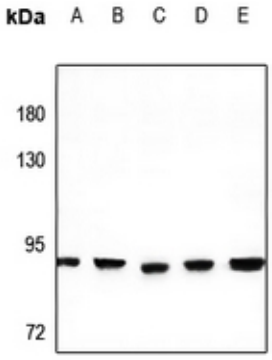
Cellular Location

Cytoplasm. Mitochondrion matrix. Mitochondrion intermembrane space; Peripheral membrane protein

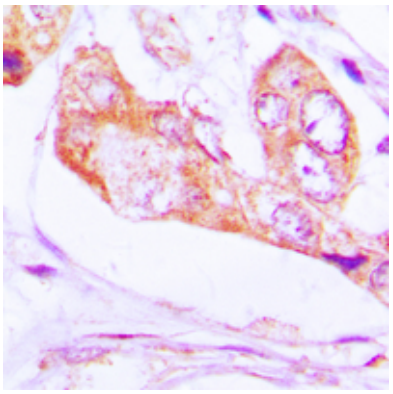
Background

KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human PNPT1. The exact sequence is proprietary.

Images



Western blot analysis of PNPT1 expression in PC12 (A), MEF (B), A549 (C), LO2 (D), HCT116 (E) whole cell lysates.



Immunohistochemical analysis of PNPT1 staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.