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Monoclonal Antibody Against PNPase (Clone 4C11)

Tech ID: 25545 / UC Case 2011-377-0

BRIEF DESCRIPTION

Mouse monoclonal antibody against the human mitochondrial polyribonucleotide nucleotidyltransferase 1 (PNPase). This antibody has been tested for use in immunocytochemistry/immunofluorescence, immunoprecipitation, and western blot.

FULL DESCRIPTION

RNA-binding protein implicated in numerous RNA metabolic processes. Catalyzes the phosphorolysis of single-stranded polyribonucleotides processively in the 3'-to-5' direction. Mitochondrial intermembrane factor with RNA-processing exoribonuclease activity. 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. 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 IFN β /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. Plays also 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.

The described mouse monoclonal antibody binds to human mtPAP and has been described for use in immunocytochemistry/immunofluorescence, immunoprecipitation, and western blot.

SUGGESTED USES

Immunocytochemistry/immunofluorescence

Immunoprecipitation

Western blot

ADVANTAGES

Specific antibody to detect PNPase (clone 4C11) by antibody-antigen complex formation.

RELATED MATERIALS

» Human mitochondrial SUV3 and polynucleotide phosphorylase form a 330-kDa heteropentamer to cooperatively degrade double-stranded RNA with a 3'-to-5' directionality. J Biol Chem. 2009 Jul 31;284(31):20812-21. - 07/31/2009

CONTACT

Patricia H. Chan
patricia.chan@uci.edu
tel: 949-824-6821.



INVENTORS

- » Guo, Xuning
- » Lee, Wen Hwa

OTHER INFORMATION

KEYWORDS

Monoclonal Antibody,
Centrosomal protein 164kDa,
Cep164,
Immunocytochemistry /
Immunofluorescence,
Immunoprecipitation,
Western blot

CATEGORIZED AS

- » **Agriculture & Animal Science**
- » Animal Science
- » **Biotechnology**

» Role of SUV3 helicase in maintaining mitochondrial homeostasis in human cells. J Biol Chem. 2008 Oct 3;283(40):27064-73 - 10/03/2008

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RELATED CASES

2011-377-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ Monoclonal Antibody Against mtPAP (Clone 3D2)
- ▶ Monoclonal Antibody Against PNPase (Clone 3H5)

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5270 California Avenue / Irvine, CA
92697-7700 / Tel: 949.824.2683



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