Monoclonal Antibody Against PNPase (Clone 3H5)

Tech ID: 25121 / UC Case 2011-375-0

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 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. 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 (1:100-1:1000)* Immunoprecipitation Western blot

* Suggested dilutions

ADVANTAGES

Specific antibody to detect mtPAP (clone 1D3) by antibody-antigen complex formation.

RELATED MATERIALS

» Protein-protein interactions between human exosome components support the assembly of RNase PH-type subunits into a six-membered PNPase-like ring. - 11/01/2002

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OTHER INFORMATION

KEYWORDS

Monoclonal Antibody,
Centrosomal protein 164kDa,
Cep 164,
Immunocytochemistry/immunofluorescence,
Immunoprecipitation,
Western blot

CATEGORIZED AS

» **Agriculture & Animal Science**
» Animal Science
» **Biotechnology**
» Genomics
» Health
» Proteomics

- **Imaging**
  - Medical
  - Molecular
- **Materials & Chemicals**
  - Biological
- **Medical**
  - Diagnostics
  - Disease: Autoimmune and Inflammation
  - Disease: Blood and Lymphatic System
  - Disease: Cancer
  - Disease: Cardiovascular and Circulatory System
  - Disease: Central Nervous System
  - Research Tools
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  - Vaccines
- **Nanotechnology**
  - Tools and Devices
- **Research Tools**
  - Antibodies
- **Sensors & Instrumentation**
  - Medical
  - Scientific/Research

RELATED CASES

2011-375-0, 2011-387-0, 2011-386-0, 2011-385-0, 2011-384-0, 2011-383-0, 2011-382-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Monoclonal Antibody Against PNPase (Clone 4C11)
- Monoclonal Antibody Against mtPAP (Clone 3D2)

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