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MPS1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1291a

Product Information

Application	IHC, E
Primary Accession	P42677
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4A12
Isotype	IgG1
Calculated MW	9461
Description	MPS1, also known as RPS27. It is a ribosomal protein. Ribosomes, the organelles that catalyze protein synthesis, consist of a small 40S subunit and a large 60S subunit. Together these subunits are composed of 4 RNA species and approximately 80 structurally distinct proteins. MPS1 is a component of the 40S subunit. The protein belongs to the S27E family of ribosomal proteins. It contains a C4-type zinc finger domain that can bind to zinc. The encoded protein has been shown to be able to bind to nucleic acid. It is located in the cytoplasm as a ribosomal component, but it has also been detected in the nucleus. Studies in rat indicate that ribosomal protein S27 is located near ribosomal protein S18 in the 40S subunit and is covalently linked to translation initiation factor eIF3. As is typical for genes encoding ribosomal proteins, there are multiple processed pseudogenes of this gene dispersed through the genome.
Immunogen	Purified recombinant fragment of MPS1 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	6232
Other Names	40S ribosomal protein S27, Metallopan-stimulin 1, MPS-1, RPS27, MPS1
Dilution	IHC~~1/200 - 1/1000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MPS1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RPS27 (HGNC:10416)
Synonyms	MPS1
Function	Component of the small ribosomal subunit (PubMed: 23636399, PubMed:8706699). The ribosome is a large ribonucleoprotein complex responsible for the synthesis of proteins in the cell (PubMed:23636399). Required for proper rRNA processing and maturation of 18S rRNAs (PubMed:25424902). Part of the small subunit (SSU) processome, first precursor of the small eukaryotic ribosomal subunit. During the assembly of the SSU processome in the nucleolus, many ribosome biogenesis factors, an RNA chaperone and ribosomal proteins associate with the nascent pre-rRNA and work in concert to generate RNA folding, modifications, rearrangements and cleavage as well as targeted degradation of pre-ribosomal RNA by the RNA exosome (PubMed:34516797).
Cellular Location	Cytoplasm. Nucleus, nucleolus
Tissue Location	Expressed in a wide variety of actively proliferating cells and tumor tissues.

References

1. Biochem Cell Biol. 1995 Nov-Dec;73(11-12):933-47. 2. Mol Biol Cell. 2003 Apr;14(4):1638-51. 3. Cell. 2008 Jan 25;132(2):233-46.

Images

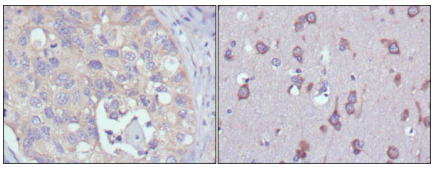


Figure 1: Immunohistochemical analysis of paraffin-embedded human lung cancer (left) and human brain (right) tissues using MPS1 mouse mAb with DAB staining.

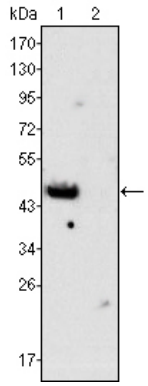


Figure 1: Western blot analysis using GATA4 mouse mAb against rat fetal heart (1) and adult heart (2) tissues lysate.

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