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NPM1 Antibody

Mouse Monoclonal Antibody (Mab)
Catalog # AW5062

Product Information

Application	IHC-P, WB
Primary Accession	P06748
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Calculated MW	32575
Isotype	IgG1
Antigen Source	Human

Additional Information

Gene ID	4869
Antigen Region	1-274
Other Names	NPM1;NPM; Nucleophosmin; Nucleophosmin; Nucleolar phosphoprotein B23; Nucleophosmin; Nucleolar protein NO38; Nucleophosmin; Numatrin
Dilution	IHC-P~~1:100~500 WB~~1:1000
Target/Specificity	Purified His-tagged NPM1 protein was used to produced this monoclonal antibody.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
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	NPM1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NPM1 (HGNC:7910)
Synonyms	NPM
Function	Involved in diverse cellular processes such as ribosome biogenesis, centrosome duplication, protein chaperoning, histone assembly, cell

	proliferation, and regulation of tumor suppressors p53/TP53 and ARF. Binds ribosome presumably to drive ribosome nuclear export. Associated with nucleolar ribonucleoprotein structures and bind single-stranded nucleic acids. Acts as a chaperonin for the core histones H3, H2B and H4. Stimulates APEX1 endonuclease activity on apurinic/apyrimidinic (AP) double-stranded DNA but inhibits APEX1 endonuclease activity on AP single-stranded RNA. May exert a control of APEX1 endonuclease activity within nucleoli devoted to repair AP on rDNA and the removal of oxidized rRNA molecules. In concert with BRCA2, regulates centrosome duplication. Regulates centriole duplication: phosphorylation by PLK2 is able to trigger centriole replication. Negatively regulates the activation of EIF2AK2/PKR and suppresses apoptosis through inhibition of EIF2AK2/PKR autophosphorylation. Antagonizes the inhibitory effect of ATF5 on cell proliferation and relieves ATF5-induced G2/M blockade (PubMed:22528486). In complex with MYC enhances the transcription of MYC target genes (PubMed:25956029). May act as chaperonin or cotransporter in the nucleolar localization of transcription termination factor TTF1 (By similarity).
Cellular Location	Nucleus, nucleolus. Nucleus, nucleoplasm. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome Note=Generally nucleolar, but is translocated to the nucleoplasm in case of serum starvation or treatment with anticancer drugs. Has been found in the cytoplasm in patients with primary acute myelogenous leukemia (AML), but not with secondary AML. Co-localizes with the methylated form of RPS10 in the granular component (GC) region of the nucleolus. Colocalized with nucleolin and APEX1 in nucleoli. Isoform 1 of NEK2 is required for its localization to the centrosome during mitosis. Can shuttle between cytoplasm and nucleus (PubMed:38231884)

Background

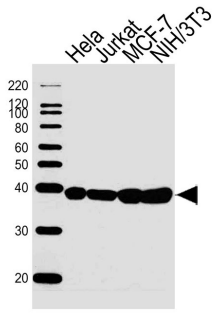
Involved in diverse cellular processes such as ribosome biogenesis, centrosome duplication, protein chaperoning, histone assembly, cell proliferation, and regulation of tumor suppressors p53/TP53 and ARF. Binds ribosome presumably to drive ribosome nuclear export. Associated with nucleolar ribonucleoprotein structures and bind single-stranded nucleic acids. Acts as a chaperonin for the core histones H3, H2B and H4. Stimulates APEX1 endonuclease activity on apurinic/apyrimidinic (AP) double-stranded DNA but inhibits APEX1 endonuclease activity on AP single-stranded RNA. May exert a control of APEX1 endonuclease activity within nucleoli devoted to repair AP on rDNA and the removal of oxidized rRNA molecules. In concert with BRCA2, regulates centrosome duplication. Regulates centriole duplication: phosphorylation by PLK2 is able to trigger centriole replication.

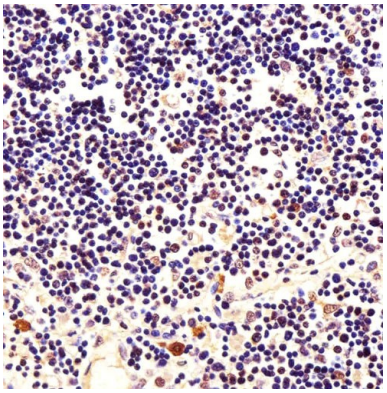
References

Swaminathan V., et al. Mol. Cell. Biol. 25:7534-7545(2005).
Tago K., et al. Proc. Natl. Acad. Sci. U.S.A. 102:7689-7694(2005).
Bolli N., et al. Lancet Oncol. 7:350-352(2006).
Lu L., et al. Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
Kalnine N., et al. Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.

Images

Western blot analysis of lysates from Hela,Jurkat,MCF-7,NIH/3T3 cell line (from left to right), using NPM1 Antibody(Cat. #AW5062). AW5062 was diluted at 1:1000 at each lane. A goat anti-mouse IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.Lysates at 20ug per lane.





Immunohistochemical analysis of paraffin-embedded H. thymus section using NPM1 Antibody(Cat#AW5062). AW5062 was diluted at 1:25 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.