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

NPM1 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP53282

Product Information

Application	WB
Primary Accession	P06748
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	32575

Additional Information

Gene ID	4869
Other Names	B23;MGC104254;NMP1;NO38;NPM 1;NPM;NPM_HUMAN;NPM1;Nucleolar Phosphoprotein B23;Nucleolar protein NO38;Nucleophosmin (nucleolar phosphoprotein B23 numatrin);Nucleophosmin; Nucleophosmin/B23.2;Nucleophosmin/nucleoplasmin family member 1;Nucleoplasmin Family Member 1;Numatrin;OTTHUMP00000161024;OTTHUMP00000161025;OTTHUMP00000223397; OTTHUMP00000223398;TRK fused gene.
Dilution	WB~~1:1000
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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)

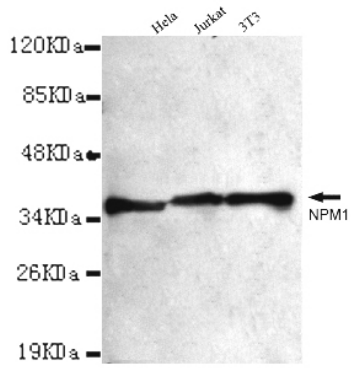
Background

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. Negatively regulates the activation of EIF2AK2/PKR and suppresses apoptosis through inhibition of EIF2AK2/PKR autophosphorylation.

References

Chan W.-Y.,et al.Biochemistry 28:1033-1039(1989).
Li X.,et al.Biochem. Biophys. Res. Commun. 163:72-78(1989).
Zhang X.T.,et al.Biochem. Biophys. Res. Commun. 164:176-184(1989).
Chan P.-K.,et al.Nucleic Acids Res. 25:1225-1232(1997).
Okuwaki M.,et al.Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.

Images



Western blot detection of NPM1 in Hela,Jurkat and 3T3 cell lysates using NPM1 mouse mAb (1:1000 diluted).Predicted band size:33KDa.Observed band size:38KDa.

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