

Rat Npm1 Antibody (Ascites)

Purified Mouse Monoclonal Antibody (Mab)

Catalog # AM1837a

Product Information

Application	WB, E
Primary Accession	P13084
Reactivity	Human, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1,Igk
Clone Names	3A9F1
Calculated MW	32560

Additional Information

Gene ID	25498
Other Names	Nucleophosmin, NPM, Nucleolar phosphoprotein B23, Nucleolar protein NO38, Numatrin, Npm1
Target/Specificity	This RAT NPM antibody is generated from mouse immunized with RAT NPM recombinant protein.
Dilution	WB~~1:500~2000 E~~Use at an assay dependent concentration.
Format	Mouse monoclonal antibody supplied in crude ascites with 0.09% (W/V) sodium azide.
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	Rat Npm1 Antibody (Ascites) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Npm1
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. In complex with MYC enhances the transcription of MYC target genes (By similarity). May act as chaperonin or cotransporter in the nucleolar localization of transcription termination factor TTF1 (By similarity).

Cellular Location

Nucleus, nucleolus {ECO:0000250|UniProtKB:P06748}. Nucleus, nucleoplasm {ECO:0000250|UniProtKB:P06748}. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome {ECO:0000250|UniProtKB:P06748}
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 {ECO:0000250|UniProtKB:P06748}

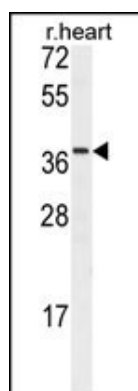
Background

RNA-associated nucleolar phosphoprotein; involved in ribosome assembly [RGD]

References

Protein B23/nucleophosmin/numatrin nuclear dynamics in relation to protein kinase CK2 and apoptotic activity in prostate cells. Wang G, et al. Biochemistry, 2010 May 11. PMID 20387789. Nucleophosmin may act as an alarmin: implications for severe sepsis. Nawa Y, et al. J Leukoc Biol, 2009 Sep. PMID 19581374. Disruption of ATP binding destabilizes NPM/B23 and inhibits anti-apoptotic function. Choi JW, et al. BMB Rep, 2008 Dec 31. PMID 19123973. Nuclear Akt interacts with B23/NPM and protects it from proteolytic cleavage, enhancing cell survival. Lee SB, et al. Proc Natl Acad Sci U S A, 2008 Oct 28. PMID 18931307. Ebp1 association with nucleophosmin/B23 is essential for regulating cell proliferation and suppressing apoptosis. Okada M, et al. J Biol Chem, 2007 Dec 14. PMID 17951246.

Images



Western blot analysis of RAT Npm1 Antibody (Cat. #AM1837a) in rat heart tissue lysates (35µg/lane).NPM (arrow) was detected using the purified Mab.(1:2000)