

Nucleophosmin Antibody

Rabbit Anti Human Polyclonal Antibody

Catalog # ABV11711

Product Information

Application	WB
Primary Accession	P06748
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	32575

Additional Information

Gene ID	4869
Positive Control	Western Blot: Recombinant protein
Application & Usage	Western blot: 1-4 μ g/ml.
Other Names	Nucleolar phosphoprotein B23, Nucleolar protein NO38, Numatrin, NPM, NPM1
Target/Specificity	Nucleophosmin
Antibody Form	Liquid
Appearance	Colorless liquid
Formulation	30 μ g (0.5 mg/ml) of antibody in PBS pH 7.2 containing 0.01 % BSA, 0.01 % thimerosal, and 50 % glycerol.
Handling	The antibody solution should be gently mixed before use.
Reconstitution & Storage	-20 °C
Background Descriptions Precautions	Nucleophosmin 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

Nucleophosmin is a nucleus protein which belongs to the nucleoplasmin family. It is a nucleolar phosphoprotein that shuttles between the nucleus and cytoplasm during the cell cycle. Nucleophosmin / NPM1 is involved in diverse cellular processes such as ribosome biogenesis, centrosome duplication, protein chaperoning, histone assembly, cell proliferation, and regulation of tumor suppressors TP53 / p53 and ARF. Subcellular localization of Nucleophosmin / NPM1 appears to be strongly correlated with NPM1 functions and cell proliferation. It is phosphorylated mainly at its central acidic domain by several upstream kinases, and its phosphorylation appears to be involved in regulating its functions in ribosome biogenesis and centrosome duplication. Nucleophosmin / NPM1 binds ribosome presumably to drive ribosome nuclear export. It is associated with nucleolar ribonucleoprotein structures and bind single-stranded nucleic acids. Nucleophosmin / NPM1 acts as a chaperonin for the core histones H3, H2B and H4. Nucleophosmin / NPM1 may act as a licensing factor to maintain proper centrosome duplication and that the Ran/CRM1 nucleocytoplasmic complex regulates local trafficking of Nucleophosmin / NPM1 to centrosomes by interacting through its nuclear export sequence motif.

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