

Anti-Nucleophosmin Antibody

Catalog # ABO11234

Specification

Anti-Nucleophosmin Antibody - Product Information

ApplicationWB, IHC-P, ICCPrimary AccessionP06748HostRabbitReactivityHuman, Mouse, RatClonalityPolyclonalFormatLyophilizedDescriptionRabbit IgG polyclonal antibody for Nucleophosmin(NPM1) detection. Tested with WB, IHC-P, ICC inHuman;Mouse;Rat.Human;Mouse;Rat.

Reconstitution Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Nucleophosmin Antibody - Additional Information

Gene ID 4869

Other Names Nucleophosmin, NPM, Nucleolar phosphoprotein B23, Nucleolar protein NO38, Numatrin, NPM1, NPM

Calculated MW 32575 MW KDa

Application Details Immunocytochemistry, 0.5-1 μg/ml, Human, Mouse, Rat
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 μg/ml, Human, Rat, Mouse, By Heat
Western blot, 0.1-0.5 μg/ml, Human, Rat, Mouse

Subcellular Localization

Nucleus, nucleolus. Nucleus, nucleoplasm. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. 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. Can shuttle between cytoplasm and nucleus. 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.

Protein Name Nucleophosmin

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.



Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human Nucleophosmin(22-41aa ELKADKDYHFKVDNDENEHQ), identical to the related rat and mouse sequences.

Purification Immunogen affinity purified.

Cross Reactivity No cross reactivity with other proteins

Storage

At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities Belongs to the nucleoplasmin family.

Anti-Nucleophosmin Antibody - 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)

Anti-Nucleophosmin Antibody - Protocols



Provided below are standard protocols that you may find useful for product applications.

- <u>Western Blot</u>
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

Anti-Nucleophosmin Antibody - Images



Anti-Nucleophosmin antibody, ABO11234, Western blottingLane 1: Rat Testis Tissue LysateLane 2: Rat Brain Tissue LysateLane 3: HELA Cell LysateLane 4: U87 Cell LysateLane 5: A549 Cell LysateLane6: SMMC Cell Lysate



Anti-Nucleophosmin antibody, ABO11234, IHC(P)IHC(P): Human Intestinal Cancer Tissue





Anti-Nucleophosmin antibody, ABO11234, ICCICC: HELA Cell



Anti-Nucleophosmin antibody, ABO11234, IHC(P)IHC(P): Rat Spleen Tissue

Anti-Nucleophosmin Antibody - Background

NPM1(Nucleophosmin/Nucleoplasmin family, member1), also known as NPM, nucleolar phosphoprotein B23 or numatrin, is a protein that in humans is encoded by the NPM1 gene. The NPM1 gene maps to chromosome 5q35. Chan et al.(1989) found that nucleophosmin is a nucleolar phosphoprotein that is more abundant in tumor cells than in normal resting cells. Stimulation of the growth of normal cells, e.g., mitogen activation of B lymphocytes, was accompanied by an increase in nucleophosmin protein level. They stated that nucleophosmin is likely involved in the assembly of ribosomal proteins into ribosomes. Electron microscopic study indicated that nucleophosmin is concentrated in the granular region of the nucleolus, where ribosome assembly occurs.