



# Nucleophosmin Rabbit mAb

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| Catalog No                  | YP-rAb-17395                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Isotype                     | IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Reactivity                  | Human,Mouse,Rat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Applications                | WB,IHC,IF,IP,ELISA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Gene Name                   | NPM1 NPM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Protein Name                | Nucleophosmin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Purification Process        | Protein A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Specificity                 | Endogenous                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Formulation                 | PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Source                      | Monoclonal, Rabbit,IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Dilution                    | IHC 1:200-1:1000; WB 1:2000-1:10000; IF 1:200-1:1000; ELISA 1:5000-1:20000; IP 1:50-1:200; Note: For IHC, we suggest antigen retrieval with TE buffer pH 9.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Concentration               | 0.5 mg/ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Purity                      | ≥90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Storage Stability           | -15 ° C to -25 ° C/1 year(Do not lower than -25 ° C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Synonyms                    | Nucleophosmin;NPM1 ; NPM ; Nucleophosmin ; Nucleolar phosphoprotein B23 ; Nucleolar protein NO38 ; Numatrin;NPM1 NPM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Observed Band               | 38kD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Calculated Molecular Weight | 33kD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Cell Pathway                | 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. |
| Tissue Specificity          | Amnion,B-cell lymphoma,Bone marrow,Brain,Cervix carcinoma,Colon carcinoma,Epithelium,Kidney                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Function                    | Disease:A chromosomal aberration involving NPM1 is a cause of myelodysplastic syndrome (MDS). Translocation t(3;5)(q25.1;q34) with MLF1.,Disease:A chromosomal aberration involving NPM1 is found in a form of acute promyelocytic leukemia. Translocation t(5;17)(q32;q11) with RARA.,Disease:A chromosomal aberration involving NPM1 is found in a form of non-Hodgkin lymphoma.                                                                                                                                                                                                                                                                            |





Translocation t(2;5)(p23;q35) with ALK. The resulting chimeric NPM1-ALK protein homodimerize and the kinase becomes constitutively activated. Disease: Defects in NPM1 are associated with acute myelogenous leukemia (AML). Mutations in exon 12 affecting the C-terminus of the protein are associated with an aberrant cytoplasmic location. Function: 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. 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. PTM: Acetylated at C-terminal lysine residues, thereby increasing affinity to histones. PTM: ADP-ribosylated. PTM: Phosphorylated at Ser-4 by PLK1. Phosphorylated by CDK2 at Ser-125 and Thr-199. Phosphorylation at Thr-199 may trigger initiation of centrosome duplication. Phosphorylated by CDC2 at Thr-199, Thr-219, Thr-234 and Thr-237 during cell mitosis. When these four sites are phosphorylated, RNA-binding activity seem to be abolished. May be phosphorylated at Ser-70 by NEK2. PTM: Sumoylated by ARF. Similarity: Belongs to the nucleoplasmin family. Subcellular location: 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. Subunit: Decamer formed by two pentameric rings associated in a head-to-head fashion. Disulfide-linked dimers under certain conditions. The SWAP complex consists of NPM1, NCL, PARP1 and SWAP70 (By similarity). Interacts with NSUN2. Interacts with hepatitis delta virus S-HDAg.

## Background

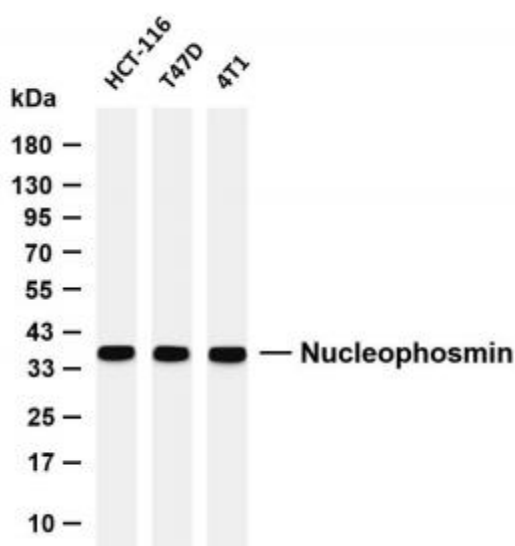
This gene encodes a phosphoprotein which moves between the nucleus and the cytoplasm. The gene product is thought to be involved in several processes including regulation of the ARF/p53 pathway. A number of genes are fusion partners have been characterized, in particular the anaplastic lymphoma kinase gene on chromosome 2. Mutations in this gene are associated with acute myeloid leukemia. More than a dozen pseudogenes of this gene have been identified. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Nov 2009]

## matters needing attention

Avoid repeated freezing and thawing!

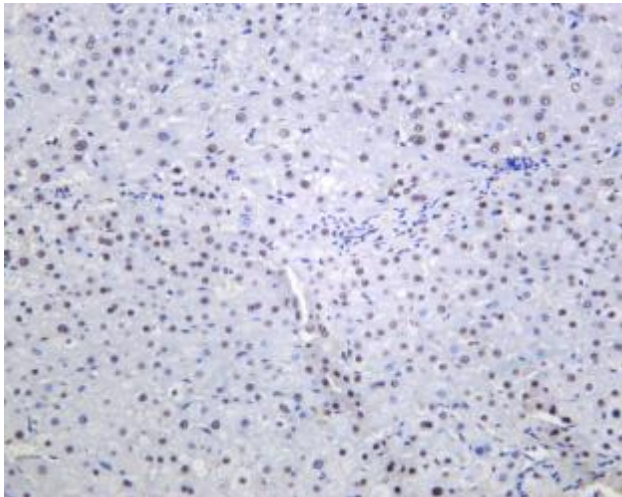
## Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

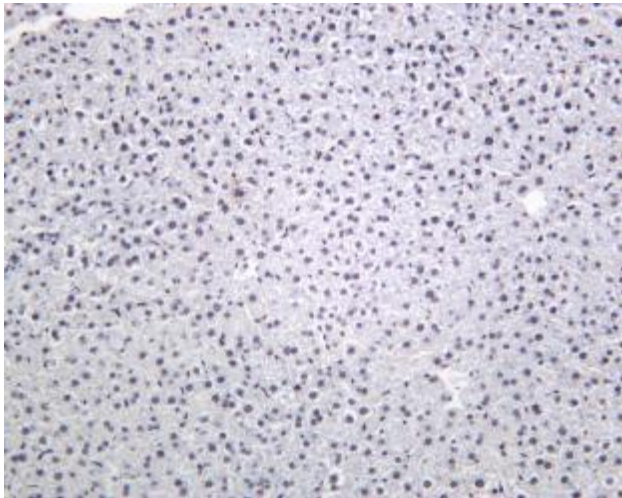


Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-Nucleophosmin antibody. The HRP-conjugated Goat anti-Rabbit IgG (H + L) antibody was used to detect the antibody. Lane 1: HCT-116 Lane 2: T47D Lane 3: 4T1 Predicted band size: 33kDa Observed band size: 38kDa





Human liver was stained with anti-Nucleophosmin Rabbit antibody



Mouse liver was stained with anti-Nucleophosmin Rabbit antibody

