

**NPM1 / NPM / Nucleophosmin Antibody (aa81-294, clone 5E3)**  
**Mouse Monoclonal Antibody**  
**Catalog # ALS12546****Specification****NPM1 / NPM / Nucleophosmin Antibody (aa81-294, clone 5E3) - Product Information**

Application	IHC
Primary Accession	<a href="#">P06748</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	33kDa KDa

**NPM1 / NPM / Nucleophosmin Antibody (aa81-294, clone 5E3) - Additional Information****Gene ID** 4869**Other Names**

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

**Reconstitution & Storage**

Long term: -20°C; Short term: +4°C; Avoid freeze-thaw cycles.

**Precautions**

NPM1 / NPM / Nucleophosmin Antibody (aa81-294, clone 5E3) is for research use only and not for use in diagnostic or therapeutic procedures.

**NPM1 / NPM / Nucleophosmin Antibody (aa81-294, clone 5E3) - Protein Information****Name** NPM1**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:<a href="http://www.uniprot.org/citations/22528486" target="\_blank">22528486</a>). In complex

with MYC enhances the transcription of MYC target genes (PubMed:<a href="http://www.uniprot.org/citations/25956029" target="\_blank">25956029</a>). May act as chaperonin or cotransporter in the nucleolar localization of transcription termination factor TTF1 (By similarity).

#### Cellular Location

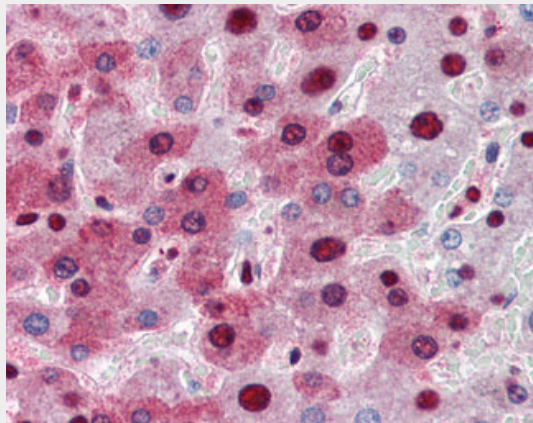
Nucleus, nucleolus. Nucleus, nucleoplasm. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome Note=Generally nucleolar, but is translocated to the nucleoplasm in case of serum starvation or treatment with anticancer drugs. Has been found in the cytoplasm in patients with primary acute myelogenous leukemia (AML), but not with secondary AML. 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

#### NPM1 / NPM / Nucleophosmin Antibody (aa81-294, clone 5E3) - Protocols

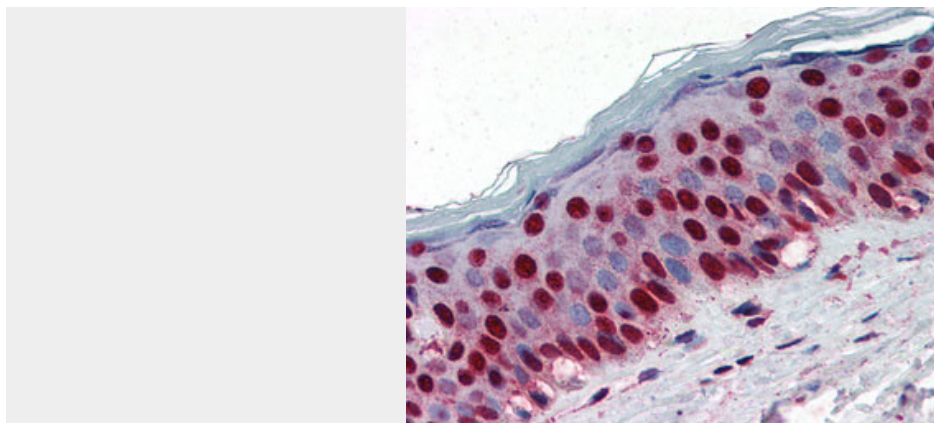
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### NPM1 / NPM / Nucleophosmin Antibody (aa81-294, clone 5E3) - Images



Anti-NPM1 antibody IHC of human liver.



Anti-NPM1 antibody IHC of human skin.

### **NPM1 / NPM / Nucleophosmin Antibody (aa81-294, clone 5E3) - 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.

### **NPM1 / NPM / Nucleophosmin Antibody (aa81-294, clone 5E3) - 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.