

## Product datasheet

# Anti-Nucleophosmin antibody [5E3] ab40696

3 References [画像数 4](#)

### 製品の概要

|              |   |
|--------------|---|
| 製品名          | Anti-Nucleophosmin antibody [5E3]   |
| 製品の詳細        | Mouse monoclonal [5E3] to Nucleophosmin   |
| 由来種          | Mouse   |
| アプリケーション     | <b>適用あり:</b> ICC/IF, Flow Cyt, ELISA, WB, IHC-P   |
| 種交差性         | <b>交差種:</b> Human   |
| 免疫原          | Recombinant fragment, corresponding to amino acids 81-294 of Human Nucleophosmin                  |
| ポジティブ・コントロール | This antibody gave a positive result when used in the following methanol fixed cell lines: HCT116 |

### 製品の特性

|        |  |
|--------|--|
| 製品の状態  | Liquid   |
| 保存方法   | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. |
| バッファー  | Preservative: 0.1% Sodium Azide<br>Constituents: PBS, pH 7.4   |
| 精製度    | Protein G purified   |
| ポリ/モノ  | モノクローナル  |
| クローン名  | 5E3  |
| ミエローマ  | Sp2/0  |
| アイソタイプ | IgG2b  |
| 軽鎖の種類  | kappa  |

### アプリケーション

Our [Abpromise guarantee](#) covers the use of **ab40696** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| アプリケーション | Abreviews | 特記事項                             |
|----------|-----------|----------------------------------|
| ICC/IF   |           | Use a concentration of 10 µg/ml. |

| アプリケーション | Abreviews | 特記事項   |
|----------|-----------|--|
| Flow Cyt |           | Use 2-5µg for 10 <sup>6</sup> cells.   |
| ELISA    |           | Use at an assay dependent concentration.                                     |
| WB       |           | Use at an assay dependent concentration. Predicted molecular weight: 33 kDa. |
| IHC-P    |           | Use at an assay dependent concentration.                                     |

## ターゲット情報

### 機能

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/aprimidinic (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).

### 関連疾患

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.

A chromosomal aberration involving NPM1 is found in a form of acute promyelocytic leukemia. Translocation t(5;17)(q32;q11) with RARA.

A chromosomal aberration involving NPM1 is a cause of myelodysplastic syndrome (MDS). Translocation t(3;5)(q25.1;q34) with MLF1.

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.

### 配列類似性

Belongs to the nucleoplasmin family.

### 翻訳後修飾

Acetylated at C-terminal lysine residues, thereby increasing affinity to histones.

ADP-ribosylated.

Phosphorylated at Ser-4 by PLK1 and PLK2. Phosphorylation at Ser-4 by PLK2 in S phase is required for centriole duplication and is sufficient to trigger centriole replication. Phosphorylation at Ser-4 by PLK1 takes place during mitosis. Phosphorylated by CDK2 at Ser-125 and Thr-199. Phosphorylation at Thr-199 may trigger initiation of centrosome duplication. Phosphorylated by CDK1 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. The Thr-199 phosphorylated form has higher affinity for ROCK2. CDK6 triggers Thr-199 phosphorylation when complexed to Kaposi's sarcoma herpesvirus (KSHV) V-cyclin, leading to viral reactivation by reducing viral LANA levels.

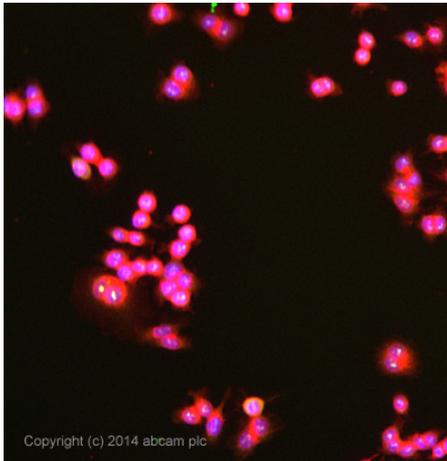
Sumoylated by ARF.

### 細胞内局在

Nucleus, nucleolus. Nucleus, nucleoplasm. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Generally nucleolar, but is translocated to the nucleoplasm in case of serum

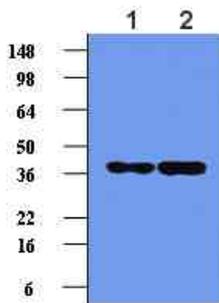
starvation or treatment with anticancer drugs. Has been found in the cytoplasm in patients with primary acute myelogenous leukemia (AML), but not with secondary AML. Can shuttle between cytoplasm and nucleus. Co-localizes with the methylated form of RPS10 in the granular component (GC) region of the nucleolus. Colocalized with nucleolin and APEX1 in nucleoli. Isoform 1 of NEK2 is required for its localization to the centrosome during mitosis.

## 画像



Immunocytochemistry/ Immunofluorescence - Anti-Nucleophosmin antibody [5E3] (ab40696)

ICC/IF image of ab40696 stained HCT116 cells. The cells were 100% methanol fixed (5 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab40696 at 10µg/ml overnight at +4°C. The secondary antibody (pseudo-colored green) was Alexa Fluor® 488 goat anti- mouse (ab150117) IgG (H+L) preadsorbed, used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (pseudo-colored red) at a 1/200 dilution for 1h at room temperature. DAPI was used to stain the cell nuclei (pseudo-colored blue) at a concentration of 1.43µM for 1 hour at room temperature.



Western blot - Anti-Nucleophosmin antibody [5E3] (ab40696)

**All lanes** : Anti-Nucleophosmin antibody [5E3] (ab40696) at 1/1000 dilution

**Lane 1** : HeLa cell lysate

**Lane 2** : HepG2 cell lysate

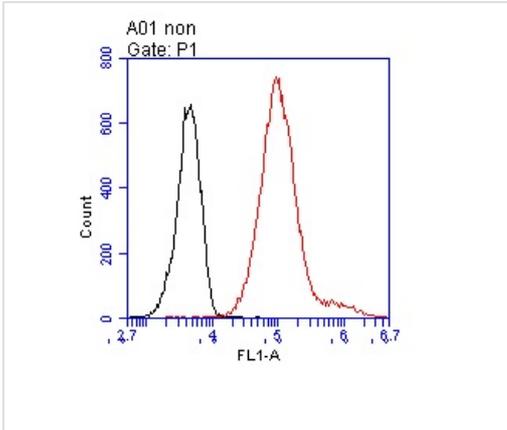
Lysates/proteins at 5 µg per lane.

**Predicted band size:** 33 kDa

**Observed band size:** 37 kDa

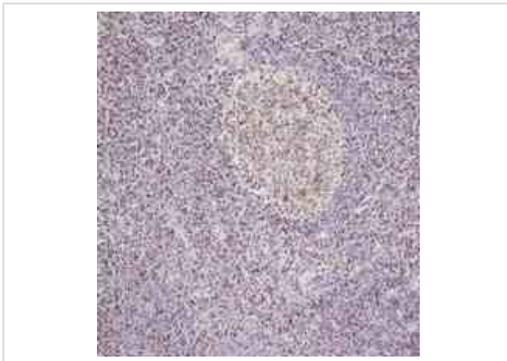
[why is the actual band size different from the predicted?](#)

Proteins were visualised using a goat anti-mouse secondary antibody conjugated to HRP and an ECL detection system.



Flow Cytometry - Anti-Nucleophosmin antibody  
[5E3] (ab40696)

Flow cytometry analysis of Nucleophosmin in HeLa cells, using ab40696 2-5 µg for 1x10<sup>6</sup> cells (red line). The secondary antibody used was an Alexa Fluor® 488 conjugated goat anti-mouse IgG. The isotype control antibody was mouse IgG (black line).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nucleophosmin antibody  
[5E3] (ab40696)

Ab40696 (1:100) staining human Nucleophosmin in human palatine tonsil tissue by immunohistochemistry using paraffin embedded tissue.

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