

## Human Nucleophosmin (NPM1) monoclonal antibody

|                     |                     |                                   |
|---------------------|---------------------|-----------------------------------|
| <b>Category</b>     | monoclonal antibody |                                   |
| <b>Catalog No.</b>  | R-N-001             |                                   |
| <b>Applications</b> | WB, IHC, IF, IP     |                                   |
| <b>Reactivity</b>   | Human, Dog          | No cross reaction: Mouse, Chicken |

### Immunogen information

|                   |                                              |
|-------------------|----------------------------------------------|
| <b>Immunogen</b>  | Recombinant protein of human NPM1 (P06748-1) |
| <b>UniProt ID</b> | P06748                                       |
| <b>Synonyms</b>   | B23, NP38, Numatrin                          |
| <b>Gene ID</b>    | 4869                                         |

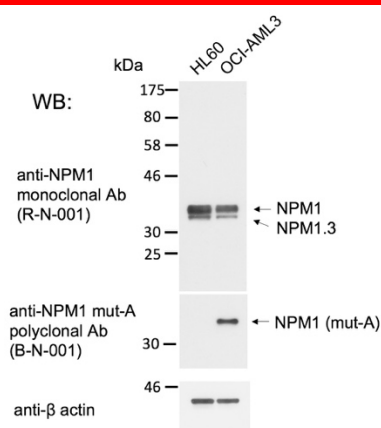
### Product information

|                            |                                                                                                                                           |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Source</b>              | Mouse                                                                                                                                     |
| <b>Clone No.</b>           | 9-2.6                                                                                                                                     |
| <b>Epitope</b>             | This clone recognized NPM (114–219), a central region of NPM1, as well as full length NPM1 (P06748-1), NPM1.3 (P06748-3) and NPM1(mut-A). |
| <b>Isotype</b>             | IgG1                                                                                                                                      |
| <b>Purification method</b> | DEAE ion-exchange purification                                                                                                            |
| <b>Lot No.</b>             | 001                                                                                                                                       |
| <b>Concentration</b>       | 1.0 mg/mL                                                                                                                                 |
| <b>Buffer</b>              | 50% glycerol/PBS, pH7.4, w/o sodium azide                                                                                                 |
| <b>Storage</b>             | Store at -20°C.                                                                                                                           |

### Recommended dilutions

|            |                 |
|------------|-----------------|
| <b>WB</b>  | 1:1000 – 1:2000 |
| <b>IHC</b> | 1:50 – 1:200    |
| <b>IF</b>  | 1:50 – 1:200    |
| <b>IP</b>  | 1:20 – 1:50     |

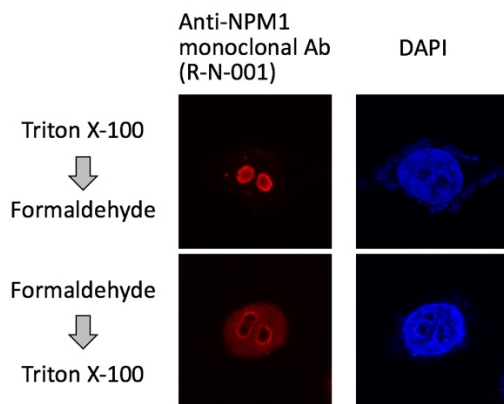
### Western blot



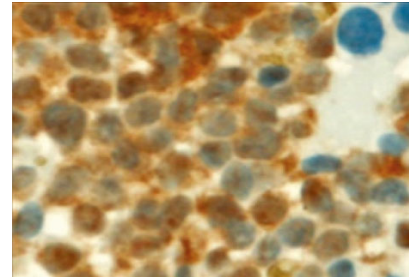
### Detection of Endogenous NPM1 in Human leukemia Cell Lines by Western Blot.

Endogenous NPM1 in HL-60 and OCI-AML3 leukemia cells were detected by Western blotting with mouse anti-human NPM1 monoclonal antibody (Catalog # R-N-001, upper panel).

## Immunofluorescence



## Immunohistochemistry



## Background

Nucleophosmin was originally identified as a highly phosphorylated protein in the nucleolus. NPM1 also localizes to the nucleoplasm, and shuttles between the nucleus and the cytoplasm. NPM1 is involved in various biological processes such as ribosome biogenesis, centrosome duplication, genome instability and apoptosis. The overexpression of NPM1 has been observed in many types of solid tumors, including gastric, prostate, liver and colon. Translocation in the *NPM1* gene has been reported for several hematopoietic malignancies; for example, t(2;5)(p23;q35) in 75% of anaplastic lymphoma kinase-positive anaplastic large cell lymphoma. Furthermore, approximately one-third of acute myeloid leukemia (AML) patients harbor frameshift mutations in exon 12 of the *NPM1* gene, resulting in the generation of a nuclear export signal in the C-terminal region of NPM1 and localization of the mutant NPM1 to the cytoplasm. *NPM1* type A mutation (*NPM1* mut-A; TCTG insertion at the 960th nucleotide in exon 12) may be a good molecular marker for assessing the clinical status and predicting the outcomes in AML patients.

## References for human NPM1 monoclonal antibody (R-N-001)

|              |                                                                                                                                  |            |                     |
|--------------|----------------------------------------------------------------------------------------------------------------------------------|------------|---------------------|
| PMID:        | 29507312                                                                                                                         | Journal:   | Scientific Reports  |
| Application: | WB, IF, IP                                                                                                                       | IF (2020): | 4.380               |
| Title:       | Analysis of the oligomeric states of nucleophosmin using size exclusion chromatography.                                          |            |                     |
| PMID:        | 19052985                                                                                                                         | Journal:   | Leukemia & Lymphoma |
| Application: | WB, IHC                                                                                                                          | IF (2020): | 3.280               |
| Title:       | Abnormal cytoplasmic dyslocalisation and/or reduction of nucleophosmin protein level rarely occurs in myelodysplastic syndromes. |            |                     |