ARG56928
anti-NPM1 / Nucleophosmin antibody [5E3]

Package: 50 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [5E3] recognizes NPM1 / Nucleophosmin
Tested Reactivity	Hu
Tested Application	FACS, ICC/IF, IHC-P, WB
Host	Mouse
Clonality	Monoclonal
Clone	5E3
Isotype	IgG2b, kappa
Target Name	NPM1 / Nucleophosmin
Species	Human
Immunogen	Recombinant fragment around aa. 81-294 of Human Nucleophosmin.
Conjugation	Un-conjugated
Alternate Names	NPM; Nucleolar protein NO38; B23; Nucleophosmin; Numatrin; Nucleolar phosphoprotein B23

Application Instructions

Application table

Application	Dilution
FACS	Assay-dependent
ICC/IF	Assay-dependent
IHC-P	Assay-dependent
WB	1:1000 - 1:2000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

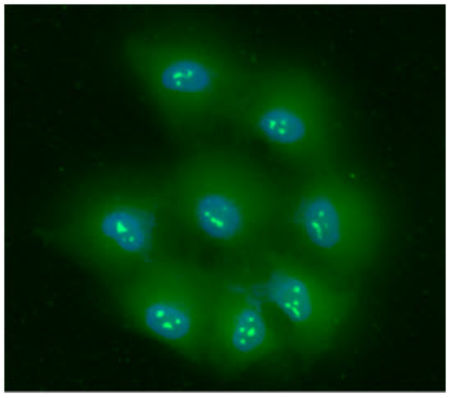
Form	Liquid
Purification	Purification with Protein G.
Buffer	PBS (pH 7.4), 0.02% Sodium azide and 10% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	10% Glycerol
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Database links	GeneID: 4869 Human Swiss-port # P06748 Human
Gene Symbol	NPM1
Gene Full Name	nucleophosmin (nucleolar phosphoprotein B23, numatrin)
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]
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. [UniProt]
Research Area	Nucleolar Marker antibody; GC Marker antibody; Granular Component Marker antibody
Calculated Mw	33 kDa
PTM	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 phosphorated, 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. May be ubiquitinated. Ubiquitination leads to proteasomal degradation.

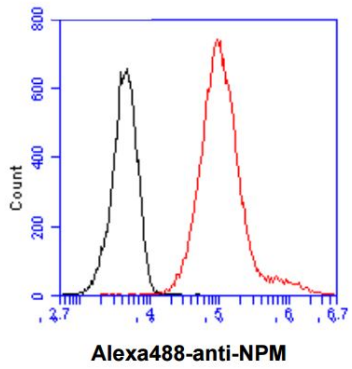
Images



ARG56928 anti-NPM1 / Nucleophosmin antibody [5E3] ICC/IF image

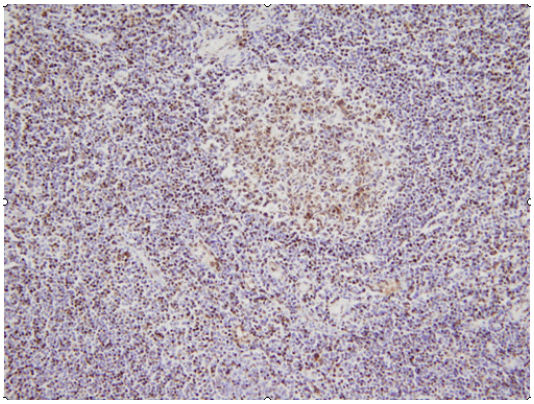
Immunoflorescense: HeLa cell line stained with ARG56928 anti-NPM1 / Nucleophosmin antibody [5E3] at 1:100 (Green).

DAPI (Blue) for nucleus staining.



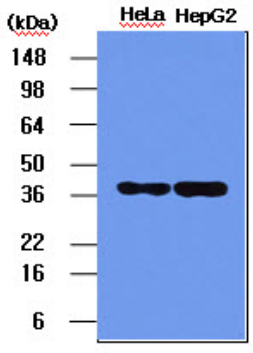
ARG56928 anti-NPM1 / Nucleophosmin antibody [5E3] FACS image

Flow Cytometry: HeLa cell line stained with ARG56928 anti-NPM1 / Nucleophosmin antibody [5E3] at 2-5 µg for 1x10^6 cells (red line). Secondary antibody: Goat anti-Mouse IgG Alexa fluor 488 conjugate. Isotype control antibody was Mouse IgG (black line).



ARG56928 anti-NPM1 / Nucleophosmin antibody [5E3] IHC-P image

Immunohistochemistry: Paraffin-embedded sections of Human palatine tonsil tissue stained with ARG56928 anti-NPM1 / Nucleophosmin antibody [5E3] at 1:100.



ARG56928 anti-NPM1 / Nucleophosmin antibody [5E3] WB image

Western blot: 5 µg of HeLa and HepG2 cell lysates stained with ARG56928 anti-NPM1 / Nucleophosmin antibody [5E3] at 1:1000.