abcam

Product datasheet

Anti-Nucleophosmin (citrulline R196) antibody [EPR20172] - BSA and Azide free ab251484

Recombinant RabMAb

5 Images

Overview

Product name	Anti-Nucleophosmin (citrulline R196) antibody [EPR20172] - BSA and Azide free
Description	Rabbit monoclonal [EPR20172] to Nucleophosmin (citrulline R196) - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** Dot blot, WB, IP
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
General notes	ab251484 is the carrier-free version of **ab208015**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications. Use our **conjugation kits** for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc. This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Clonality	Monoclonal
Clone number	EPR20172
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab251484 in the following tested applications.

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

Application	Abreviews	Notes
Dot blot		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration. Predicted molecular weight: 32 kDa.
IP		Use at an assay dependent concentration.

Target

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:22528486).

Involvement in 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.
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

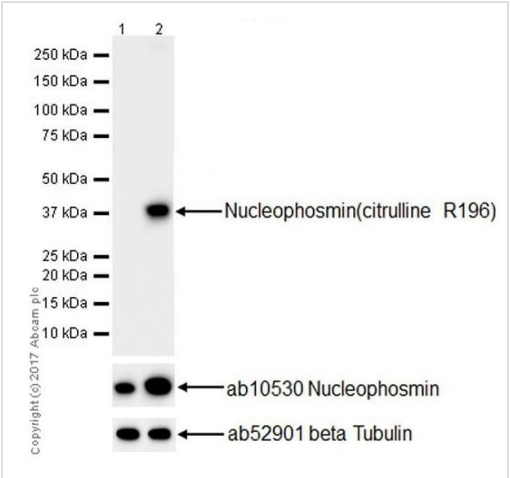
affecting the C-terminus of the protein are associated with an aberrant cytoplasmic location.

Sequence similarities Belongs to the nucleoplasmin family.

Post-translational modifications 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.

Cellular localization 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.

Images



Western blot - Anti-Nucleophosmin (citrulline R196) antibody [EPR20172] - BSA and Azide free (ab251484)

All lanes : Anti-Nucleophosmin (citrulline R196) antibody [EPR20172] (**ab208015**) at 1/1000 dilution

Lane 1 : NIH/3T3 (mouse embryo fibroblast cell line) transfected with a control vector containing GFP tag, treated with 10 mM calcium chloride and 10 µM Ionomycin for 2 hours, whole cell lysate
Lane 2 : NIH/3T3 transfected with GFP-tagged PADI4 (WT) expression vector, treated with 10 mM calcium chloride and 10 µM Ionomycin for 2 hours, whole cell lysate

Lysates/proteins at 10 µg per lane.

Developed using the ECL technique.

Predicted band size: 32 kDa
Observed band size: 37 kDa

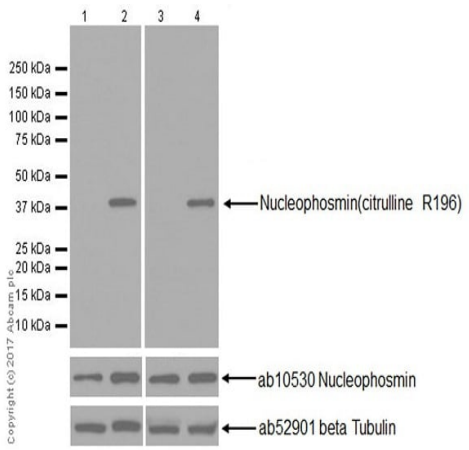
Exposure time: 15 seconds

This data was developed using **ab208015**, the same antibody

clone in a different buffer formulation.

Blocking and dilution buffer: 5% NFDM/TBST.

The blot was developed on a BIO-RAD® ChemiDoc™ MP instrument.



Western blot - Anti-Nucleophosmin (citrulline R196) antibody [EPR20172] - BSA and Azide free (ab251484)

All lanes : Anti-Nucleophosmin (citrulline R196) antibody [EPR20172] (**ab208015**) at 1/1000 dilution

Lane 1 : HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) transfected with a control vector containing GFP tag, treated with 10 mM calcium chloride and 10 µM Ionomycin for 2 hours, whole cell lysate
Lane 2 : HEK-293T transfected with GFP-tagged PADI2 (WT) expression vector, treated with 10 mM calcium chloride and 10 µM Ionomycin for 2 hours, whole cell lysate
Lane 3 : C6 (rat glial tumor cell line) transfected with a control vector containing GFP tag, treated with 10 mM calcium chloride and 10 µM Ionomycin for 2 hours, whole cell lysate
Lane 4 : C6 transfected with GFP-tagged PADI4 (WT) expression vector, treated with 10 mM calcium chloride and 10 µM Ionomycin for 2 hours, whole cell lysate

Lysates/proteins at 20 µg per lane.

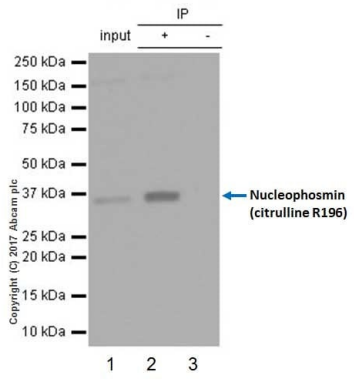
Developed using the ECL technique.

Predicted band size: 32 kDa
Observed band size: 37 kDa

This data was developed using **ab208015**, the same antibody clone in a different buffer formulation.

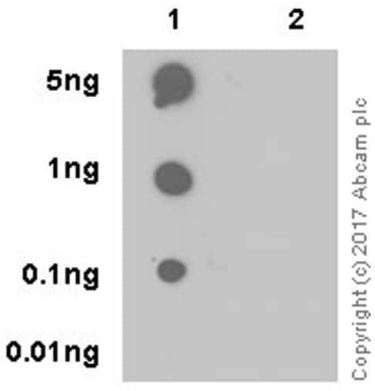
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure times: Lanes 1-2: 5 seconds; Lanes 3-4: 3 minutes.



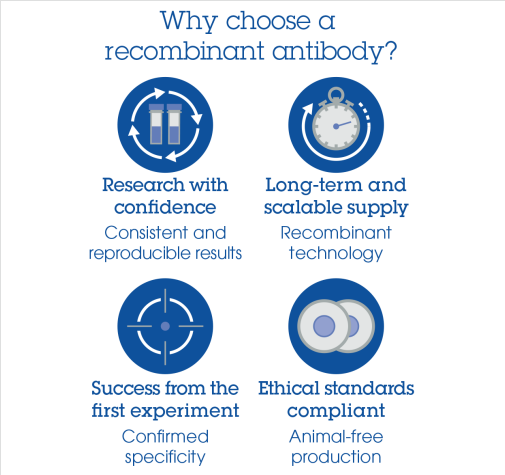
Immunoprecipitation - Anti-Nucleophosmin (citrulline R196) antibody [EPR20172] - BSA and Azide free (ab251484)

This data was developed using **ab208015**, the same antibody clone in a different buffer formulation.Nucleophosmin (citrulline R196) was immunoprecipitated from 0.35 mg of HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) transfected with GFP-tagged PADI4 expression vector for 24h then treated with 10 mM $CaCl_2$ and 10 µM ionomycin for 2h, whole cell lysate with **ab208015** at 1/30 dilution. Western blot was perfromed from the immunoprecipitate using **ab208015** at 1/5000 dilution. VeriBlot for IP Detection Reagent (HRP) (**ab131366**) was used for detection at 1/10000 dilution. Lane 1: HEK-293T transfected with GFP-tagged PADI4 expression vector for 24h then treated with 10 mM $CaCl_2$ and 10 µM ionomycin for 2h, whole cell lysate 10µg (Input). Lane 2: **ab208015** IP in HEK-293T transfected with GFP-tagged PADI4 expression vector for 24h then treated with 10 mM $CaCl_2$ and 10 µM ionomycin for 2h, whole cell lysate. Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of **ab208015** in HEK-293T transfected with GFP-tagged PADI4 expression vector for 24h then treated with 10mM $CaCl_2$ and 10 µM ionomycin for 2h, whole cell lysate. Blocking and dilution buffer and concentration: 5% NFDM/TBST Exposure time : lesss than 1 second.



Dot Blot - Anti-Nucleophosmin (citrulline R196) antibody [EPR20172] - BSA and Azide free (ab251484)

This data was developed using **ab208015**, the same antibody clone in a different buffer formulation.Dot blot analysis of Nucleophosmin (citrulline R196) labeled with **ab208015** at 1/1000 dilution. Lane 1: Nucleophosmin (citrulline R196) peptide. Lane 2: Nucleophosmin non-citrulline peptide. Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution was used as secondary antibody. Blocking/Dilution buffer: 5% NFDM/TBST. Exposure time: 3 minutes.



Anti-Nucleophosmin (citrulline R196) antibody

[EPR20172] - BSA and Azide free (ab251484)

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