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Tel: 858.875.1900 Fax: 858.875.1999

Anti-p95 NBS1 Picoband Antibody

Catalog # ABO12301

Specification

Anti-p95 NBS1 Picoband Antibody - Product Information

Application	**WB, IHC**
Primary Accession	O60934
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Nibrin(NBN) detection. Tested with WB, IHC-P, ICC in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-p95 NBS1 Picoband Antibody - Additional Information

Gene ID 4683

Other Names
Nibrin, Cell cycle regulatory protein p95, Nijmegen breakage syndrome protein 1, NBN, NBS, NBS1, P95

Calculated MW
84959 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, By Heat
Immunocytochemistry, 0.5-1 µg/ml
Western blot, 0.1-0.5 µg/ml

Subcellular Localization
Nucleus . Nucleus, PML body . Chromosome, telomere . Localizes to discrete nuclear foci after treatment with genotoxic agents. .

Tissue Specificity
Ubiquitous. Expressed at high levels in testis.

Protein Name
Nibrin

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the C-terminus of human p95 NBS1 (714-745aa RKNTELEEWLRQEMEVQNQHAKEESLADDLFR), different from the related mouse

sequence by three amino acids, and from the related rat sequence by five amino acids.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage

At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities
Contains 1 BRCT domain.

Anti-p95 NBS1 Picoband Antibody - Protein Information

Name NBN

Synonyms NBS, NBS1, P95

Function
Component of the MRE11-RAD50-NBN (MRN complex) which plays a critical role in the cellular response to DNA damage and the maintenance of chromosome integrity. The complex is involved in double- strand break (DSB) repair, DNA recombination, maintenance of telomere integrity, cell cycle checkpoint control and meiosis. The complex possesses single-strand endonuclease activity and double-strand- specific 3'-5' exonuclease activity, which are provided by MRE11. RAD50 may be required to bind DNA ends and hold them in close proximity. NBN modulate the DNA damage signal sensing by recruiting PI3/PI4-kinase family members ATM, ATR, and probably DNA-PKcs to the DNA damage sites and activating their functions. It can also recruit MRE11 and RAD50 to the proximity of DSBs by an interaction with the histone H2AX. NBN also functions in telomere length maintenance by generating the 3' overhang which serves as a primer for telomerase dependent telomere elongation. NBN is a major player in the control of intra-S-phase checkpoint and there is some evidence that NBN is involved in G1 and G2 checkpoints. The roles of NBS1/MRN encompass DNA damage sensor, signal transducer, and effector, which enable cells to maintain DNA integrity and genomic stability. Forms a complex with RBBP8 to link DNA double-strand break sensing to resection. Enhances AKT1 phosphorylation possibly by association with the mTORC2 complex.

Cellular Location
Nucleus. Nucleus, PML body. Chromosome, telomere. Chromosome Note=Localizes to discrete nuclear foci after treatment with genotoxic agents (PubMed:26438602, PubMed:10783165, PubMed:26215093). Acetylation of 'Lys-5' of histone H2AX (H2AXK5ac) promotes NBN/NBS1 assembly at the sites of DNA damage (PubMed:26438602).

Tissue Location
Ubiquitous (PubMed:9590180). Expressed at high levels in testis (PubMed:9590180).

Anti-p95 NBS1 Picoband Antibody - Protocols

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

- Western Blot

- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-p95 NBS1 Picoband Antibody - Images

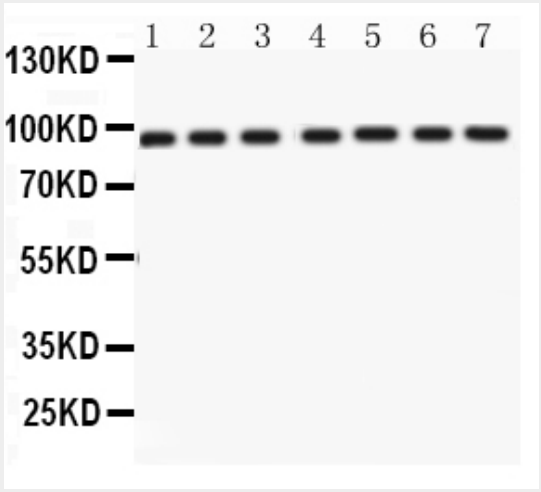

Figure 1. Western blot analysis of p95 NBS1 using anti-p95 NBS1 antibody (ABO12301). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: Rat Testis Tissue Lysate,Lane 2: Rat Brain Tissue Lysate,Lane 3: Rat Liver Tissue Lysate,Lane 4: Mouse Testis Tissue Lysate,Lane 5: HELA Whole Cell Lysate,Lane 6: A431 Whole Cell Lysate,Lane 7: HUT Whole Cell Lysate. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-p95 NBS1 antigen affinity purified polyclonal antibody (Catalog # ABO12301) at 0.5 Î¼g/mL overnight at 4Â°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for p95 NBS1 at approximately 95KD. The expected band size for p95 NBS1 is at 95KD.

Figure 2. IHC analysis of p95 NBS1 using anti-p95 NBS1 antibody (ABO12301).p95 NBS1 was detected in paraffin-embedded section of Human Mammary Cancer Tissue. Heat mediated antigen

retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti-p95 NBS1 Antibody (ABO12301) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

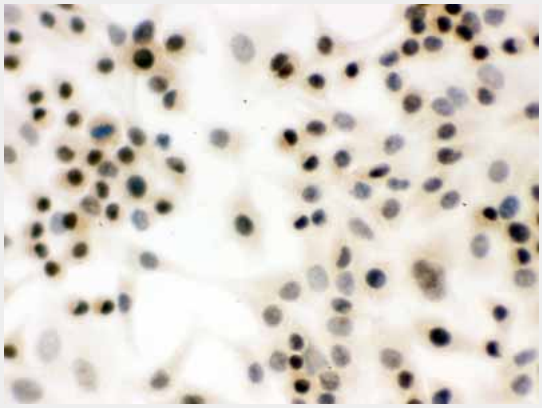

Figure 3. IHC analysis of p95 NBS1 using anti-p95 NBS1 antibody (ABO12301).p95 NBS1 was detected in immunocytochemical section of A549 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti-p95 NBS1 Antibody (ABO12301) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

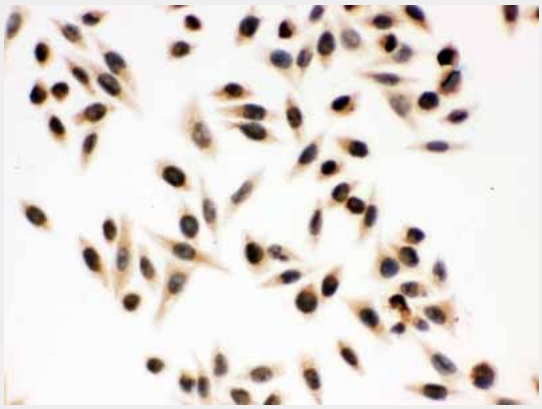

Figure 4. IHC analysis of p95 NBS1 using anti-p95 NBS1 antibody (ABO12301).p95 NBS1 was detected in immunocytochemical section of SMMC-7721 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti-p95 NBS1 Antibody (ABO12301) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

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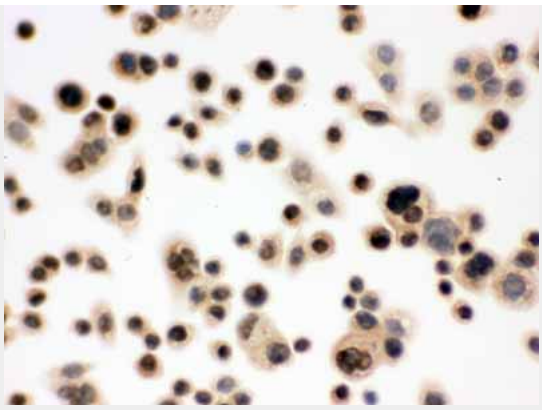

Figure 5. IHC analysis of p95 NBS1 using anti-p95 NBS1 antibody (ABO12301).p95 NBS1 was detected in immunocytochemical section of SW480 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti-p95 NBS1 Antibody (ABO12301) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

Anti-p95 NBS1 Picoband Antibody - Background

p95 NBS1, also known as NBN or Nibrin, is a protein which in humans is encoded by the NBN gene. Nibrin is a protein associated with the repair of double strand breaks (DSBs) which pose serious damage to a genome. It is a 754 amino acid protein identified as a member of the NBS1/hMre11/RAD50(N/M/R, more commonly referred to asMRN) double strand DNA break repair complex. This complex recognizes DNA damage and rapidly relocates to DSB sites and forms nuclear foci. It also has a role in regulation of N/M/R (MRN) protein complex activity which includes end-processing of both physiological and mutagenic DNA double strand breaks (DSBs).