Nibrin (Phospho Ser343) Rabbit pAb

CatalogNo: YP0194

Key Features

Host Species	Reactivity	Applications
• Rabbit	• Human,Rat	• WB,ELISA

MW	Isotype
• 95kD (Observed)	• IgG

Storage

Storage*	-15°C to -25°C/1 year (Do not lower than -25°C)
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

WB 1:500-1:2000
ELISA 1:5000
Not yet tested in other applications.

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	The antiserum was produced against synthesized peptide derived from human p95/NBS1 around the phosphorylation site of Ser343. AA range:310-359
Specificity	Phospho-Nibrin (S343) Polyclonal Antibody detects endogenous levels of Nibrin protein only when phosphorylated at S343.The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):SLsQG

Target Information

Gene name NBN

Protein Name Nibrin

Organism	Gene ID	UniProt ID
Human	4683;	O60934;
Mouse	27354;	Q9R207;
Rat	85482;	Q9JIL9;

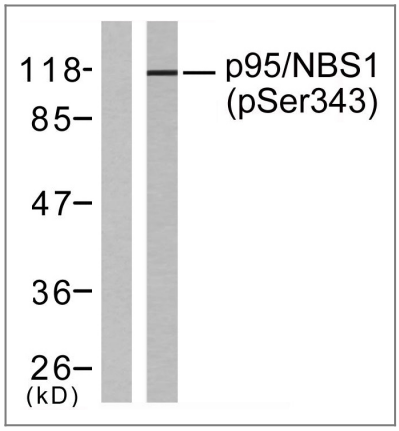
Cellular Localization Nucleus . Nucleus , PML body . Chromosome , telomere . Chromosome . Localizes to discrete nuclear foci after treatment with genotoxic agents (PubMed:26438602 , PubMed:10783165 , PubMed:26215093) . Acetylation of 'Lys-5' of histone H2AX (H2AXK5ac) promotes NBN/NBS1 assembly at the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

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

Function

Disease:Defects in NBN are a cause of genetic susceptibility to breast cancer (BC) [MIM:114480]. BC is an extremely common malignancy , affecting one in eight women during their lifetime. A positive family history has been identified as major contributor to risk of development of the disease , and this link is striking for early-onset breast cancer. ,Disease:Defects in NBN are the cause of Nijmegen breakage syndrome (NBS) [MIM:251260]. NBS is an autosomal recessive syndrome characterized by chromosomal instability , radiation sensitivity , microcephaly , growth retardation , immunodeficiency and predisposition to cancer , particularly to lymphoid malignancies. ,Disease:Defects in NBN may be associated with aplastic anemia [MIM:609135]. Aplastic anemia is a disease of bone-marrow failure characterized by peripheral pancytopenia and marrow hypoplasia. Most of the cases of aplastic anemia are idiopathic , some are familial and some are due to a viral infection or to exposure to chemicals and radiation. ,Disease:Defects in NBN might play a role in the pathogenesis of childhood acute lymphoblastic leukemia (ALL) . ,Domain:The C-terminal domain contains a MRE11-binding site , and this interaction is required for the nuclear localization of the MRN complex. ,Domain:The EEXXXDDL motif at the C-terminus is required for the interaction with ATM and its recruitment to sites of DNA damage and promote the phosphorylation of ATM substrates , leading to the events of DNA damage response. ,Domain:The FHA and BRCT domains are likely to have a crucial role for both binding to histone H2AFX and for relocalization of MRE11/RAD50 complex to the vicinity of DNA damage. ,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 MRE11A. 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. ,miscellaneous:In case of infection by adenovirus E4 , the MRN complex is inactivated and degraded by viral oncoproteins , thereby preventing concatenation of viral genomes in infected cells. ,PTM:Phosphorylated by ATM in response of ionizing radiation , and such phosphorylation is responsible intra-S phase checkpoint control and telomere maintenance. ,sequence Caution:Contaminating sequence. Potential poly-A sequence starting in position 550. ,similarity:Contains 1 BRCT domain. ,similarity:Contains 1 FHA domain. ,subcellular location:Localizes to discrete nuclear foci after treatment with genotoxic agents. ,subunit:Component of the MRN complex composed of two heterodimers RAD50/MRE11A associated with a single NBN. Component of the BASC complex , at least composed of BRCA1 , MSH2 , MSH6 , MLH1 , ATM , BLM , RAD50 and MRE11A (By similarity) . Interacts with histone H2AFX this requires phosphorylation of H2AFX on 'Ser-139'. Interacts with HJURP , KPNA2 and TERF2. ,tissue specificity:Ubiquitous. Expressed at high levels in testis. ,

Validation Data



Western blot analysis of lysates from Jurkat cells, using p95/NBS1 (Phospho-Ser343) Antibody. The lane on the left is blocked with the phospho peptide.

Contact information

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Please scan the QR code to access additional product information:
Nibrin (Phospho Ser343) Rabbit pAb

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