

Product datasheet

Anti-p95 NBS1 antibody [NBS1-501] ab49958

5 References

Overview

Product name	Anti-p95 NBS1 antibody [NBS1-501]
Description	Mouse monoclonal [NBS1-501] to p95 NBS1
Host species	Mouse
Tested applications	Suitable for: ICC, WB, IP, ELISA
Species reactivity	Reacts with: Human Predicted to work with: Mouse, Rat, Cow
Immunogen	Synthetic peptide: GSKNVDLSGRQERKQ , corresponding to amino acids 206-220 of Human p95 NBS1 Run BLAST with Run BLAST with
Positive control	Nuclear extract of HEK 293T expressing recombinant human NBS1

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 15mM Sodium Azide Constituents: 0.01M PBS, pH 7.4
Purification notes	Purified immunoglobulin
Clonality	Monoclonal
Clone number	NBS1-501
Myeloma	NS1
Isotype	IgG1

Applications

Our [Abpromise guarantee](#) covers the use of **ab49958** 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
ICC		
WB		
IP		
ELISA		
Application notes	<p>ELISA: Use at an assay dependent dilution. ICC: Use at an assay dependent dilution. IP: Use at an assay dependent dilution. WB: Use at a concentration of 2 - 4 µg/ml. Predicted molecular weight: 85 kDa. Array: Use at an assay dependent dilution.</p> <p>Not yet tested in other applications. Optimal dilutions/concentrations should be determined by the end user.</p>	
Target		
Function	<p>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/P14-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.</p>	
Tissue specificity	Ubiquitous. Expressed at high levels in testis.	
Involvement in disease	<p>Nijmegen breakage syndrome Breast cancer Aplastic anemia Defects in NBN might play a role in the pathogenesis of childhood acute lymphoblastic leukemia (ALL).</p>	
Sequence similarities	<p>Contains 1 BRCT domain. Contains 1 FHA domain.</p>	
Domain	<p>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. The C-terminal domain contains a MRE11-binding site, and this interaction is required for the nuclear localization of the MRN complex.</p>	

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.

Post-translational modifications

Phosphorylated by ATM in response of ionizing radiation, and such phosphorylation is responsible intra-S phase checkpoint control and telomere maintenance.

Cellular localization

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

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