abcam

Product datasheet

Anti-p95/NBS1 (phospho S278) antibody ab111373

2 Images

Overview

Product name	Anti-p95/NBS1 (phospho S278) antibody
Description	Rabbit polyclonal to p95/NBS1 (phospho S278)
Host species	Rabbit
Tested applications	**Suitable for:** WB, ICC/IF
Species reactivity	**Reacts with:** Mouse, Human
Immunogen	Synthetic peptide corresponding to Human p95/NBS1 (phospho S278).
Positive control	HUVEC cell extracts, treated with foskolin; NIH3T3 cells.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Frozen Stock (-20C). Shelf life 12 months.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: 49.1% PBS, 0.88% Sodium chloride, 50% Glycerol (glycerin, glycerine) without Mg2+ and Ca2+
Purity	Immunogen affinity purified
Purification notes	ab111373 was affinity-purified from Rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab111373 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
WB		1/500 - 1/1000. Predicted molecular weight: 84 kDa.
ICC/IF		1/100 - 1/500.

Target

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. Forms a complex with RBBP8 to link DNA double-strand break sensing to resection. Enhances AKT1 phosphorylation possibly by association with the mTORC2 complex.

Tissue specificity Ubiquitous. Expressed at high levels in testis.

Involvement in disease Nijmegen breakage syndrome
Breast cancer
Aplastic anemia
Defects in NBN might play a role in the pathogenesis of childhood acute lymphoblastic leukemia (ALL).

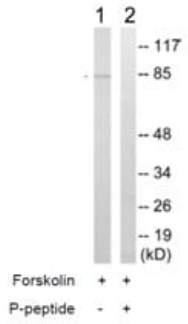
Sequence similarities Contains 1 BRCT domain.
Contains 1 FHA domain.

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.
The C-terminal domain contains a MRE11-binding site, and this interaction is required for the nuclear localization of the MRN complex.
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.

Images



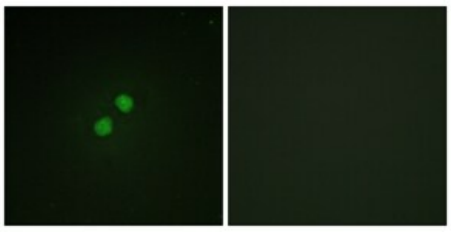
Western blot - Anti-p95/NBS1 (phospho S278) antibody (ab111373)

All lanes : Anti-p95/NBS1 (phospho S278) antibody (ab111373) at 1/500 dilution

Lane 1 : HUVEC cell extracts, treated with Forskolin (40nM, 30mins)
Lane 2 : HUVEC cell extracts, treated with Forskolin (40nM, 30mins) with immunizing peptide at 10 µg

Lysates/proteins at 30 µg per lane.

Predicted band size: 84 kDa



Immunocytochemistry/ Immunofluorescence - Anti-p95/NBS1 (phospho S278) antibody (ab111373)

ab111373 at 1/100 dilution staining p95/NBS1 in NIH3T3 cells by Immunofluorescence. The image on the right is treated with the synthesized peptide.

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