

NBN Antibody (C-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11776b**Specification**

NBN Antibody (C-term) - Product Information

Application	IF, WB, FC,E
Primary Accession	O60934
Other Accession	NP_002476.2
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	84959
Antigen Region	602-630

NBN Antibody (C-term) - Additional Information**Gene ID** 4683**Other Names**

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

Target/Specificity

This NBN antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 602-630 amino acids from the C-terminal region of human NBN.

DilutionIF~~1:10~50
WB~~1:1000
FC~~1:10~50**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

NBN Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

NBN Antibody (C-term) - 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

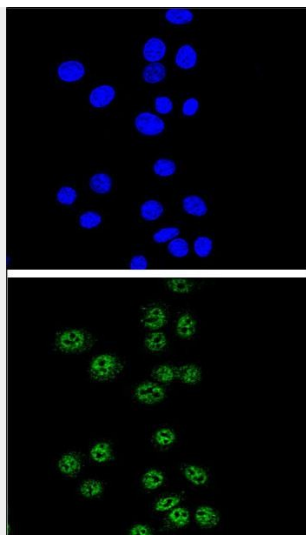
Ubiquitous (PubMed:9590180). Expressed at high levels in testis (PubMed:9590180).

NBN Antibody (C-term) - Protocols

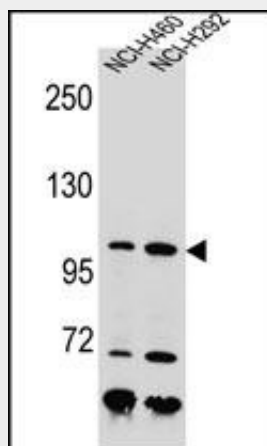
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

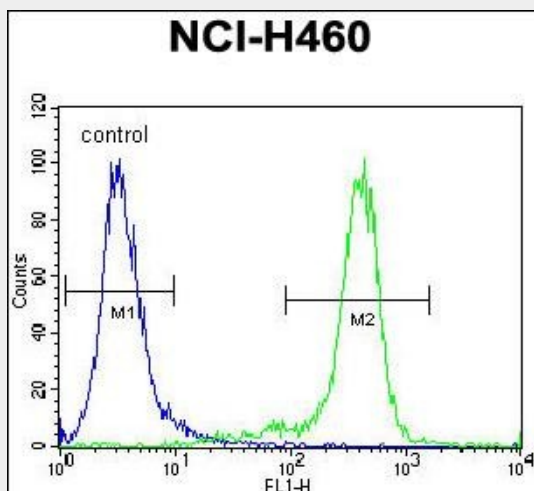
NBN Antibody (C-term) - Images



Confocal immunofluorescent analysis of NBN Antibody (C-term) (Cat. #AP11776b) with HeLa cell followed by Alexa Fluor® 488-conjugated goat anti-rabbit IgG (green). DAPI was used to stain the cell nuclear (blue).



NBN Antibody (C-term) (Cat. #AP11776b) western blot analysis in NCI-H460, NCI-H292 cell line lysates (35ug/lane). This demonstrates the NBN antibody detected the NBN protein (arrow).



NBN Antibody (C-term) (Cat. #AP11776b) flow cytometric analysis of NCI-H460 cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit

secondary antibodies were used for the analysis.

NBN Antibody (C-term) - Background

Mutations in this gene are associated with Nijmegen breakage syndrome, an autosomal recessive chromosomal instability syndrome characterized by microcephaly, growth retardation, immunodeficiency, and cancer predisposition. The encoded protein is a member of the MRE11/RAD50 double-strand break repair complex which consists of 5 proteins. This gene product is thought to be involved in DNA double-strand break repair and DNA damage-induced checkpoint activation.

NBN Antibody (C-term) - References

Liu, Y., et al. Carcinogenesis 31(10):1762-1769(2010)
Kavitha, C.V., et al. Biochem. Biophys. Res. Commun. 399(4):575-580(2010)
Ho-Pun-Cheung, A., et al. Pharmacogenomics J. (2010) In press :
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Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :