

## NBN Antibody

Catalog No: #34291

Package Size: #34291-1 50ul #34291-2 100ul

Orders: [order@signalwayantibody.com](mailto:order@signalwayantibody.com)Support: [tech@signalwayantibody.com](mailto:tech@signalwayantibody.com)

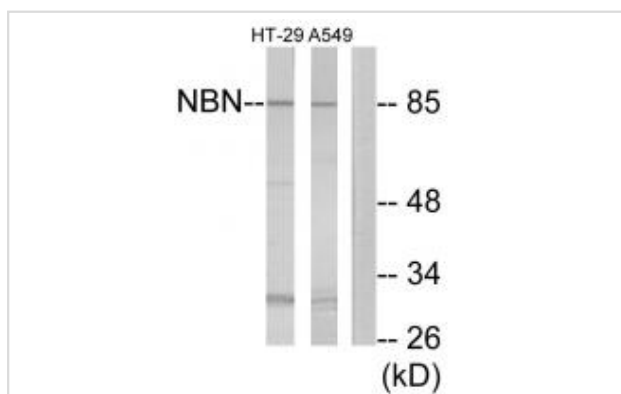
## Description

Product Name	NBN Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Applications	WB
Species Reactivity	Hu Ms Rt
Specificity	The antibody detects endogenous levels of total NBN protein.
Immunogen Type	Peptide
Immunogen Description	Synthesized peptide derived from internal of human NBN.
Target Name	NBN
Other Names	Nibrin; Nijmegen breakage syndrome protein 1; Cell cycle regulatory protein p95; NBN; NBS
Accession No.	Swiss-Prot: O60934NCBI Gene ID: 4683
SDS-PAGE MW	85kd
Concentration	1.0mg/ml
Formulation	Rabbit IgG in phosphate buffered saline (without Mg <sup>2+</sup> and Ca <sup>2+</sup> ), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Storage	Store at -20°C

## Application Details

Western blotting: 1:500~1:3000

## Images



Western blot analysis of extracts from HT-29 cells and A549 cells, using NBN antibody #34291.

## Background

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.

Varon R., Cell 93:467-476(1998).  
Carney J.P., Cell 93:477-486(1998).  
Matsuura S., Nat. Genet. 19:179-181(1998).

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Note: This product is for in vitro research use only and is not intended for use in humans or animals.