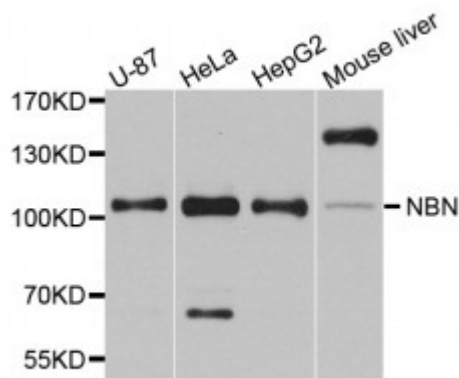


Anti-NBN Antibody



Description

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.

Model	STJ114898
Host	Rabbit
Reactivity	Human, Mouse
Applications	WB
Immunogen	Recombinant fusion protein containing a sequence corresponding to amino acids 435-754 of human NBN (NP_002476.2).
Gene ID	4683
Gene Symbol	NBN
Dilution range	WB 1:500 - 1:1000
Tissue Specificity	Ubiquitous, Expressed at high levels in testis
Purification	Affinity purification
Note	For Research Use Only (RUO).
Protein Name	Nibrin Cell cycle regulatory protein p95 Nijmegen breakage syndrome protein 1

Molecular Weight	84.959 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Storage Instruction	Store at -20C. Avoid freeze / thaw cycles.
Database Links	HGNC:7652OMIM:114480Reactome:R-HSA-2559586
Alternative Names	Nibrin Cell cycle regulatory protein p95 Nijmegen breakage syndrome protein 1
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 Localization	Nucleus
Post-translational Modifications	Phosphorylated by ATM in response of ionizing radiation, and such phosphorylation is responsible intra-S phase checkpoint control and telomere maintenance,