For Research Use Only

NBN / NBS1 Polyclonal antibody

Catalog Number:55025-1-AP Featured Product 13 Publications

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Basic Information

Catalog Number:
55025-1-AP

Size:
400 μg/ml

Source:
Rabbit

Isotype:
IgG

GenBank Accession Number:
NM_002485

GeneID (NCBI):
4683

UNIPROT ID:
O60934

Full Name:
nibrin

Calculated MW:
85 kDa

Observed MW:
90-95 kDa

Purification Method:
Antigen affinity purification

Recommended Dilutions:
WB 1:500-1:2400
IP 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate
IF 1:500-1:2000

Applications

Tested Applications:
IF/ICC, IP, WB, ELISA

Cited Applications:
CoIP, IF, IP, WB

Species Specificity:
human, mouse, rat

Cited Species:
human, rat, mouse

Positive Controls:

WB : HeLa cells, human testis tissue

IP : HeLa cells,

IF : A549 cells,

Background Information

NBN, also named as NBS, NBS1 and P95, is a 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. 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. 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. Defects in NBN are the cause of Nijmegen breakage syndrome (NBS). Defects in NBN are a cause of genetic susceptibility to breast cancer (BC). Defects in NBN may be associated with aplastic anemia. Defects in NBN might play a role in the pathogenesis of childhood acute lymphoblastic leukemia (ALL). The antibody is specific to NBN. The full-length NBN protein, with an apparent molecular weight of 95 kDa and the two protein fragments of 26 and 70 kDa arising from the c.657_661del5 (p.K219fsX19) mutation, and the 80 kDa protein found in patient RR with the mutation c.742_743insGG leading to excision of exons 6 and 7 from the NBN mRNA are shown. (PMID: 26265251) The predicted molecular weight of NBN protein (p95) is 85kDa, actually detection result is about 95kDa(PMID: 23762398).

Notable Publications

Author	Pubmed ID	Journal	Application
Tao Zhang	36050397	Nat Commun	WB
Mikio Shimada	31665364	J Radiat Res	WB
Yongtai Bai	31353207	Mol Cell	WB

Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol pH 7.3.
Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:
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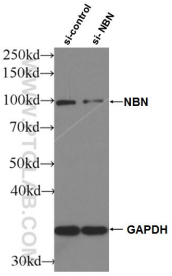
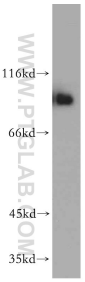
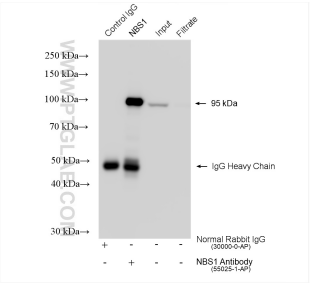
Selected Validation Data



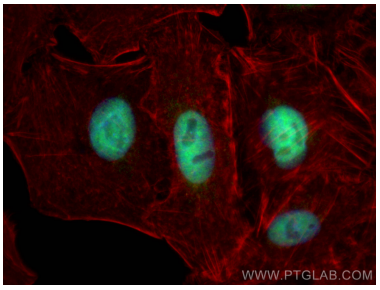
WB result of NBS1 antibody (55025-1-AP; 1:2000; incubated at room temperature for 1.5 hours) with sh-Control and sh-NBS1 transfected HeLa cells.



HeLa cells were subjected to SDS PAGE followed by western blot with 55025-1-AP (NBS1 antibody) at dilution of 1:800 incubated at room temperature for 1.5 hours.



IP result of anti-NBN / NBS1 (IP:55025-1-AP, 4ug; Detection:55025-1-AP 1:3000) with HeLa cells lysate 1320 ug.



Immunofluorescent analysis of (4% PFA) fixed A549 cells using NBN / NBS1 antibody (55025-1-AP) at dilution of 1:1000 and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L), CL594-Phalloidin (red).