Revision 1

Store at -20C

#3002

p95/NBS1 Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk Mi	Endogenous	95	Rabbit	#O60934	4683

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

p95/NBS1 Antibody detects endogenous levels of total p95/NBS1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to carboxy-terminal residues of human p95/NBS1. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Nijmegen breakage syndrome (NBS) is characterized by growth retardation, mental disability, immunodeficiency, defects in cell cycle checkpoints, an increased propensity for cancer, and sensitivity to ionizing radiation (1). Repair of radiation-induced DNA double-strand breaks is dependent on the multifunctional MRN complex containing Mre11, Rad50, and the NBS1 gene product p95/NBS1 (also called p95 or nibrin) (2). p95/NBS1 is a protein with a forkhead-associated domain and a BRCT repeat that regulate interaction with MDC1 and are essential for proper G2/M DNA-damage checkpoint function (3). NBS1 is critical for homologous recombination following DNA double-strand breaks. This activity requires CDK-dependent association with CtIP and subsequent phosphorylation by ATM (4). ATM interacts with and phosphorylates p95/NBS1 at Ser278 and Ser343 after exposure to ionizing radiation (5,6).

Background References

1. Chrzanowska, K.H. et al. (2012) *Orphanet J Rare Dis* 7, 13.
2. Lee, J.H. et al. (2013) *J Biol Chem* 288, 12840-51.
3. Hari, F.J. et al. (2010) *EMBO Rep* 11, 387-92.
4. Wang, H. et al. (2013) *PLoS Genet* 9, e1003277.
5. Zhao, S. et al. (2000) *Nature* 405, 473-7.
6. Wen, J. et al. (2013) *Oncogene* 32, 4448-56.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey **Mi:** Mink

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Limited Uses

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