

Nibrin (C-19): sc-8580

BACKGROUND

DNA repair proteins are necessary for the maintenance of chromosome integrity and are involved in the elimination of premutagenic lesions from DNA. The DNA repair proteins Rad51 and Rad52 are key components of the double-strand-break repair (DSBR) pathway. Rad51 is essential for mitotic and meiotic recombination, and its mutation in yeast and mammalian cells results in chromosome loss. Overexpression of Rad52 confers resistance to ionizing radiation and induces homologous intrachromosomal recombination. Rad52 is thought to be involved in an early stage of Rad51-mediated recombination. Additional proteins involved in the pathway include Dmc1 and nibrin. Dmc1 is specifically involved in meiotic recombination. Nibrin, which complexes with Mre11 and Rad50, is absent in Nijmegen breakage syndrome (NBS) patients.

CHROMSOMAL LOCATION

Genetic locus: NBN (human) mapping to 8q21; Nbn (mouse) mapping to 4 A.

SOURCE

Nibrin (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Nibrin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8580 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Nibrin (C-19) is recommended for detection of Nibrin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Nibrin (C-19) is also recommended for detection of Nibrin in additional species, including equine and canine.

Suitable for use as control antibody for Nibrin siRNA (h): sc-36061, Nibrin siRNA (m): sc-36062, Nibrin shRNA Plasmid (h): sc-36061-SH, Nibrin shRNA Plasmid (m): sc-36062-SH, Nibrin shRNA (h) Lentiviral Particles: sc-36061-V and Nibrin shRNA (m) Lentiviral Particles: sc-36062-V.

Molecular Weight of Nibrin: 95 kDa.

Positive Controls: Nibrin (m): 293T Lysate: sc-125706, HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

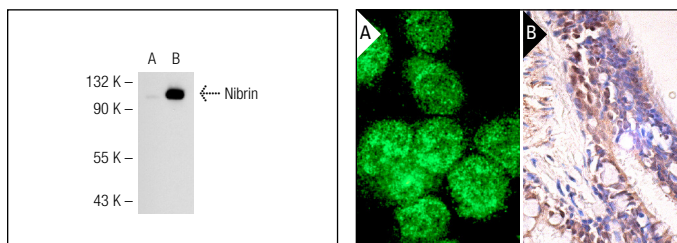
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



Nibrin (C-19): sc-8580. Western blot analysis of Nibrin expression in non-transfected: sc-117752 (A) and mouse Nibrin transfected: sc-125706 (B) 293T whole cell lysates.

Nibrin (C-19): sc-8580. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing nuclear and cytoplasmic staining of respiratory epithelial cells (B).

SELECT PRODUCT CITATIONS

- Zhang, X., et al. 2004. Artemis is a phosphorylation target of ATM and ATR and is involved in the G₂/M DNA damage checkpoint response. *Mol. Cell. Biol.* 24: 9207-9220.
- Hoppe, A., et al. 2006. Interaction of the adenovirus type 5 E4 Orf3 protein with promyelocytic leukemia protein isoform II is required for ND10 disruption. *J. Virol.* 80: 3042-3049.
- Li, B., et al. 2008. WRN controls formation of extrachromosomal telomeric circles and is required for TRF2^{ΔB}-mediated telomere shortening. *Mol. Cell. Biol.* 28: 1892-1904.
- van der Linden, E., et al. 2009. RAD50 and NBS1 form a stable complex functional in DNA binding and tethering. *Nucleic Acids Res.* 37: 1580-1588.
- Watanabe, K., et al. 2009. RAD18 promotes DNA double-strand break repair during G₁ phase through chromatin retention of 53BP1. *Nucleic Acids Res.* 37: 2176-2193.
- Singh, S., et al. 2009. Modification in the expression of Mre11/Rad50/Nbs1 complex in low dose irradiated human lymphocytes. *Dose Response* 7: 193-207.
- Li, B., et al. 2011. Depletion of Ku70/80 reduces the levels of extrachromosomal telomeric circles and inhibits proliferation of ALT cells. *Aging* 3: 395-406.
- Yin, H., et al. 2011. The phenotypic radiation resistance of CD44⁺/CD24^{or low} breast cancer cells is mediated through the enhanced activation of ATM signaling. *PLoS ONE* 6: e24080.

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Try **Nibrin (B-5): sc-515069** or **Nibrin (A-2): sc-374168**, our highly recommended monoclonal alternatives to Nibrin (C-19).