MRE11 (H-300): sc-22767

SANTA CRUZ®

BIOTECHNOLOGY

The Power to Question

BACKGROUND

Rad52 family members (Rad50, Rad51B/C/D, Rad52, Rad54 and MRE11) mediate DNA double-strand break repair (DSBR) for DNA damage that could otherwise cause cell death, mutation or neoplastic transformation. Rad51 (RECA, BRCC5) interacts with BRCA1 and BRCA2 to influence subcellular localization and cellular response to DNA damage. BRCA2 inactivation may be a key event leading to genomic instability and tumorigenesis from deregulation of Rad51. Rad52 forms a heptameric ring that binds single-stranded DNA ends and catalyzes DNA-DNA interaction necessary for the annealing of complementary strands. Rad52 can interact with Rad51. MRE11 (meiotic recombination 11, ATLD, HNGS1) is a nuclear 3'-5' exonuclease/endonuclease that associates with RAD50 and influences homologous recombination, telomere length maintenance, and DNA double-strand break repair. MRE11 is most abundant in proliferating tissues.

REFERENCES

1. Tsukamoto, Y., et al. 1996. Effects of mutations of Rad50, Rad51, Rad52, and related genes on illegitimate recombination in *Saccharomyces cerevisiae*. Genetics 142: 383-391.

2. Zhong, Q., et al. 2002. Deficient nonhomologous end-joining activity in cell-free extracts from BRCA1-null fibroblasts. Cancer Res. 62: 3966-3970.

CHROMOSOMAL LOCATION

Genetic locus: MRE11A (human) mapping to 11q21; Mre11a (mouse) mapping to 9 A2.

SOURCE

MRE11 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 of MRE11 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.

APPLICATIONS

MRE11 (H-300) is recommended for detection of MRE11 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). MRE11 (H-300) is also recommended for detection of MRE11 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MRE11 siRNA (h): sc-37395, MRE11 siRNA (m): sc-37396, MRE11 shRNA Plasmid (h): sc-37395-SH, MRE11 shRNA Plasmid (m): sc-37396-SH, MRE11 shRNA (h) Lentiviral Particles: sc-37395-V and MRE11 shRNA (m) Lentiviral Particles: sc-37396-V.

Molecular Weight of MRE11: 80 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA
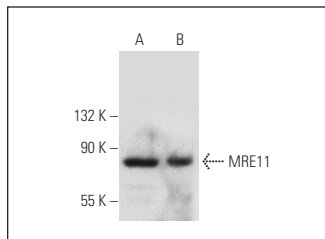
MRE11 (H-300): sc-22767. Western blot analysis of MRE11 expression in Jurkat (**A**) and K-562 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Cilli, D., et al. 2014. Identification of the interactors of human nibrin (NBN) and of its 26 kDa and 70 kDa fragments arising from the NBN 657del5 founder mutation. PLoS ONE 9: e11465.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfation
Guaranteed

Try **MRE11 (18): sc-135992**, our highly recommended monoclonal alternative to MRE11 (H-300).