**Rad51D (5B3/6): sc-53432**

**BACKGROUND**
Rad52 family members (Rad50, Rad51B/C/D, Rad52, Rad54, MRE11) mediate DNA double-strand break repair (DSBR) for DNA damage that otherwise could 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. Rad54A of the DEAD-like helicase superfamily binds to double-strand DNA and induces a DNA topological change, which is thought to facilitate homologous DNA pairing and stimulate DNA recombination. Rad54B of the DEAD-like helicase superfamily binds to double-stranded DNA and displays ATPase activity in the presence of DNA. Rad54B is abundant in testis and spleen, and mutations of this gene occur in primary lymphoma and colon cancer. MRE11 (meiotic recombination 11, ATLD) HNS51 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**

**CHROMOSOMAL LOCATION**
Genetic locus: RAD51L3 (human) mapping to 17q12.

**SOURCE**
Rad51D (5B3/6) is a mouse monoclonal antibody raised against His-tagged recombinant Rad51D of human origin.

**PRODUCT**
Each vial contains 200 µg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**APPLICATIONS**
Rad51D (5B3/6) is recommended for detection of Rad51D of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)]. Suitable for use as control antibody for Rad51D siRNA (h): sc-44933, Rad51D shRNA Plasmid (h): sc-44933-SH and Rad51D shRNA (h) Lentiviral Particles: sc-44933-V.

**RECOMMENDED SUPPORT REAGENTS**
To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG BP-HRP: sc-516102 or m-IgG BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). For research use only, not for use in diagnostic procedures.

**DATA**
![Western Blot Analysis of Rad51D](image)

**SELECT PRODUCT CITATIONS**

**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.