SANTA CRUZ BIOTECHNOLOGY, INC.

RAD51AP2 (N-20): sc-243919

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The Power to Question

BACKGROUND

Many interacting proteins regulate and/or assist the activities of Rad51, a recombinase that plays a critical role in both DNA repair and meiotic recombination. RAD51AP2 (Rad51 associated protein 2) is a 1,159 amino acid protein that interacts strongly with Rad51. The Rad51-binding region of RAD51AP2 is 81% homologous to the C-terminus of RAD51AP1, an otherwise totally unrelated Rad51-binding partner that is ubiquitously expressed. Both RAD51AP1 and RAD51AP2 use the same structural C-terminal motif for Rad51 binding. The RAD51AP2 protein is found only in meiotic tissue (i.e. adult testis and fetal ovary), suggesting a meiotic-specific function for RAD51AP2. The RAD51AP2 gene is conserved in chimpanzee, canine, and mouse, and maps to human chromosome 2p24.2.

REFERENCES

1. Yuan, S.S., et al. 1999. BRCA2 is required for ionizing radiation-induced assembly of Rad51 complex *in vivo*. Cancer Res. 59: 3547-3551.
2. Kovalenko, O.V., et al. 2006. RAD51AP2, a novel vertebrate- and meiotic-specific protein, shares a conserved RAD51-interacting C-terminal domain with RAD51AP1/PIR51. Nucleic Acids Res. 34: 5081-5092.
3. Wiese, C., et al. 2007. Promotion of homologous recombination and genomic stability by RAD51AP1 via RAD51 recombinase enhancement. Mol. Cell 28: 482-490.
4. Marcelis, C.L., et al. 2008. Genotype-phenotype correlations in MYCN-related Feingold syndrome. Hum. Mutat. 29: 1125-1132.
5. Gospodinov, A., et al. 2009. RAD51 foci formation in response to DNA damage is modulated by TIP49. Int. J. Biochem. Cell Biol. 41: 925-933.
6. Gildemeister, O.S., et al. 2009. Cellular redistribution of Rad51 in response to DNA damage: novel role for Rad51C. J. Biol. Chem. 284: 31945-31952.
7. Storlazzi, C.T., et al. 2010. Gene amplification as double minutes or homogeneously staining regions in solid tumors: origin and structure. Genome Res. 20: 1198-1206.

CHROMOSOMAL LOCATION

Genetic locus: RAD51AP2 (human) mapping to 2p24.2.

SOURCE

RAD51AP2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of RAD51AP2 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-243919 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

RAD51AP2 (N-20) is recommended for detection of RAD51AP2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with RAD51AP1.

Molecular Weight of RAD51AP2: 134 kDa.

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) 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.

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.