

# RAD51AP1 (S-15): sc-240798

## BACKGROUND

Homologous recombination is essential for tumor suppression and chromosome damage repair. RAD51AP1 (Rad51 associated protein 1), also known as PIR51, is a 352 amino acid protein known to activate homologous recombination and double-strand break repair in the DNA damage response pathway. RAD51AP1 binds both RNA and DNA, has the ability to aggregate DNA and undergoes post-translational phosphorylation upon DNA damage. While highly expressed in thymus and testis, lower levels of RAD51AP1 have been found in small intestine and colon. RAD51AP1 may be involved in cell proliferation and while multiple splice variants of RAD51AP1 are known to exist, only three isoforms have been characterized. RAD51AP1 isoform 2 co-localizes with Rad51 to multiple nuclear foci.

## REFERENCES

1. Kovalenko, O.V., et al. 1997. A novel nucleic acid-binding protein that interacts with human Rad51 recombinase. *Nucleic Acids Res.* 25: 4946-4953.
2. Mizuta, R., et al. 1997. RAB22 and RAB163/mouse BRCA2: proteins that specifically interact with the RAD51 protein. *Proc. Natl. Acad. Sci. USA* 94: 6927-6932.
3. Modesti, M., et al. 2007. RAD51AP1 is a structure-specific DNA binding protein that stimulates joint molecule formation during RAD51-mediated homologous recombination. *Mol. Cell* 28: 468-481.
4. Wiese, C., et al. 2007. Promotion of homologous recombination and genomic stability by RAD51AP1 via RAD51 recombinase enhancement. *Mol. Cell* 28: 482-490.
5. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 603070. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Obama, K., et al. 2008. Enhanced expression of RAD51 associating protein-1 is involved in the growth of intrahepatic cholangiocarcinoma cells. *Clin. Cancer Res.* 14: 1333-1339.

## CHROMOSOMAL LOCATION

Genetic locus: RAD51AP1 (human) mapping to 12p13.32.

## SOURCE

RAD51AP1 (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RAD51AP1 of human origin.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## 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-240798 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-240798 X, 200 µg/0.1 ml.

## APPLICATIONS

RAD51AP1 (S-15) is recommended for detection of RAD51AP1 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).

RAD51AP1 (S-15) is also recommended for detection of RAD51AP1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for RAD51AP1 siRNA (h): sc-95792, RAD51AP1 shRNA Plasmid (h): sc-95792-SH and RAD51AP1 shRNA (h) Lentiviral Particles: sc-95792-V.

RAD51AP1 (S-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RAD51AP1: 38 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.