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Goat Anti-RAD51C Antibody

Peptide-affinity purified goat antibody
Catalog # AF1901a

Specification

Goat Anti-RAD51C Antibody - Product Information

Application	**WB**
Primary Accession	O43502
Other Accession	NP_478123, 5889
Reactivity	**Human**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**42190**

Goat Anti-RAD51C Antibody - Additional Information

Gene ID 5889

Other Names
DNA repair protein RAD51 homolog 3, R51H3, RAD51 homolog C, RAD51-like protein 2, RAD51C, RAD51L2

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-RAD51C Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-RAD51C Antibody - Protein Information

Name RAD51C

Synonyms RAD51L2

Function
Essential for the homologous recombination (HR) pathway of DNA repair. Involved in the homologous recombination repair (HRR) pathway of double-stranded DNA breaks arising during DNA replication or induced by DNA-damaging agents. Part of the RAD51 paralog protein complexes BCDX2 and CX3 which act at different stages of the BRCA1- BRCA2-dependent HR

pathway. Upon DNA damage, BCDX2 seems to act downstream of BRCA2 recruitment and upstream of RAD51 recruitment; CX3 seems to act downstream of RAD51 recruitment; both complexes bind predominantly to the intersection of the four duplex arms of the Holliday junction (HJ) and to junction of replication forks. The BCDX2 complex was originally reported to bind single-stranded DNA, single- stranded gaps in duplex DNA and specifically to nicks in duplex DNA. The BCDX2 subcomplex RAD51B:RAD51C exhibits single-stranded DNA- dependent ATPase activity suggesting an involvement in early stages of the HR pathway. Involved in RAD51 foci formation in response to DNA damage suggesting an involvement in early stages of HR probably in the invasion step. Has an early function in DNA repair in facilitating phosphorylation of the checkpoint kinase CHEK2 and thereby transduction of the damage signal, leading to cell cycle arrest and HR activation. Participates in branch migration and HJ resolution and thus is important for processing HR intermediates late in the DNA repair process; the function may be linked to the CX3 complex. Part of a PALB2-scaffolded HR complex containing BRCA2 and which is thought to play a role in DNA repair by HR. Protects RAD51 from ubiquitin-mediated degradation that is enhanced following DNA damage. Plays a role in regulating mitochondrial DNA copy number under conditions of oxidative stress in the presence of RAD51 and XRCC3. Contributes to DNA cross- link resistance, sister chromatid cohesion and genomic stability. Involved in maintaining centrosome number in mitosis.

Cellular Location
Nucleus. Cytoplasm Cytoplasm, perinuclear region Mitochondrion. Note=DNA damage induces an increase in nuclear levels. Accumulates in DNA damage induced nuclear foci or RAD51C foci which is formed during the S or G2 phase of cell cycle. Accumulation at DNA lesions requires the presence of NBN/NBS1, ATM and RPA

Tissue Location
Expressed in a variety of tissues, with highest expression in testis, heart muscle, spleen and prostate

Goat Anti-RAD51C Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-RAD51C Antibody - Images

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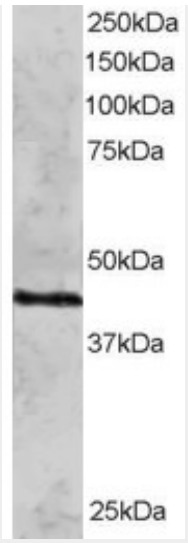

AF1901a staining (2 µg/ml) of HeLa lysate (RIPA buffer, 30 µg total protein per lane). Primary incubated for 12 hour. Detected by western blot using chemiluminescence.

Goat Anti-RAD51C Antibody - Background

This gene is a member of the RAD51 family of related genes, which encode strand-transfer proteins thought to be involved in recombinational repair of damaged DNA and in meiotic recombination. This gene product interacts with two other DNA repair proteins, encoded by RAD51B and XRCC3, but not with itself. The protein copurifies with XRCC3 protein in a complex, reflecting their endogenous association and suggesting a cooperative role during recombinational repair. This gene is one of four localized to a region of chromosome 17q23 where amplification occurs frequently in breast tumors. Overexpression of the four genes during amplification has been observed and suggests a possible role in tumor progression. Alternative splicing has been observed for this gene and two variants encoding different isoforms have been identified.

Goat Anti-RAD51C Antibody - References

Screening RAD51C nucleotide alterations in patients with a family history of breast and ovarian cancer. Zheng Y, et al. Breast Cancer Res Treat, 2010 Aug 10. PMID 20697805.
Variation within DNA repair pathway genes and risk of multiple sclerosis. Briggs FB, et al. Am J Epidemiol, 2010 Jul 15. PMID 20522537.
Comprehensive screen of genetic variation in DNA repair pathway genes and postmenopausal breast cancer risk. Monsees GM, et al. Breast Cancer Res Treat, 2010 May 23. PMID 20496165.
Germline mutations in breast and ovarian cancer pedigrees establish RAD51C as a human cancer susceptibility gene. Meindl A, et al. Nat Genet, 2010 May. PMID 20400964.
Mutation of the RAD51C gene in a Fanconi anemia-like disorder. Vaz F, et al. Nat Genet, 2010 May. PMID 20400963.