10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-Rad51C Picoband Antibody

Catalog # ABO12478

Specification

Anti-Rad51C Picoband Antibody - Product Information

Application	**WB**
Primary Accession	O43502
Host	**Rabbit**
Reactivity	**Human**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for DNA repair protein RAD51 homolog 3(RAD51C) detection. Tested with WB in Human.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Rad51C Picoband Antibody - Additional Information

Gene ID 5889

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

Calculated MW
42190 MW KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization
Nucleus. Cytoplasm. Cytoplasm, perinuclear region. Mitochondrion. 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 Specificity
Expressed in a variety of tissues, with highest expression in testis, heart muscle, spleen and prostate.

Protein Name
DNA repair protein RAD51 homolog 3

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human Rad51C (177-207aa IQHLQLIAEKHKGEEHRKALEDFTLDNILSH), different from the related mouse sequence by eight amino acids.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins.

Storage	**At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Anti-Rad51C Picoband 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
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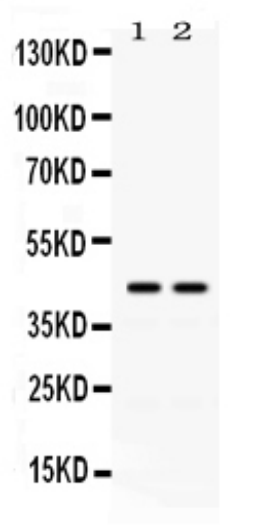
Anti-Rad51C Picoband Antibody - Protocols

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

Anti-Rad51C Picoband Antibody - Images



Anti- Rad51C Picoband antibody, ABO12478, Western blottingAll lanes: Anti Rad51C (ABO12478) at 0.5ug/mlLane 1: A549 Whole Cell Lysate at 40ugLane 2: COLO320 Whole Cell Lysate at 40ugPredicted bind size: 42KDObserved bind size: 42KD

Anti-Rad51C Picoband Antibody - Background

RAD51 homolog C (S. cerevisiae), also known as RAD51C, is a protein which in humans is encoded by the RAD51C gene. 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. Ana 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.