abcam

Product datasheet

Anti-Rad51C antibody ab95201

Overview

Product name	Anti-Rad51C antibody
Description	Rabbit polyclonal to Rad51C
Host species	Rabbit
Tested applications	**Suitable for:** WB, IP
Species reactivity	**Reacts with:** Mouse
Immunogen	Synthetic peptide: RELVGYPLSPAVRGKGKLVAAGFQTAED , corresponding to N terminal amino acids 3-28 of Mouse Rad51C Run BLAST with Run BLAST with
Positive control	Mouse embryonic fibroblasts / Irradiated cells.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: None Constituents: PBS
Purity	Affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab95201** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent dilution. Predicted molecular weight: 42 kDa.
IP		Use at an assay dependent dilution.

Target

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. The RAD51B-RAD51C dimer exhibits single-stranded DNA-dependent ATPase activity. The BCDX2 complex binds single-stranded DNA, single-stranded gaps in duplex DNA and specifically to nicks in duplex DNA. Participates in branch migration and Holliday junction resolution and thus is important for processing HR intermediates late in the DNA repair process. Also has an early function in DNA repair in facilitating phosphorylation of the checkpoint kinase CHK2 and thereby transduction of the damage signal, leading to cell cycle arrest and HR activation. 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.
Tissue specificity	Expressed in a variety of tissues, with highest expression in testis, heart muscle, spleen and prostate.
Involvement in disease	Defects in RAD51C are the cause of Fanconi anemia complementation group O (FANCO) [MIM:613390]. It is a disorder affecting all bone marrow elements and resulting in anemia, leukopenia and thrombopenia. It is associated with cardiac, renal and limb malformations, dermal pigmentary changes, and a predisposition to the development of malignancies. At the cellular level it is associated with hypersensitivity to DNA-damaging agents, chromosomal instability (increased chromosome breakage) and defective DNA repair. Defects in RAD51C are the cause of breast-ovarian cancer familial type 3 (BROVCA3) [MIM:613399]. It is a condition associated with familial predisposition to cancer of the breast and ovaries. Characteristic features in affected families are an early age of onset of breast cancer (often before age 50), increased chance of bilateral cancers (cancer that develop in both breasts, or both ovaries, independently), frequent occurrence of breast cancer among men, increased incidence of tumors of other specific organs, such as the prostate.
Sequence similarities	Belongs to the RecA family. RAD51 subfamily.
Cellular 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.

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