10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.622.0609

RAD51 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP2825b

Specification

RAD51 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q06609

RAD51 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 5888

Other Names
DNA repair protein RAD51 homolog 1, HsRAD51, hRAD51, RAD51 homolog A, RAD51, RAD51A, RECA

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2825b was selected from the C-term region of human RAD51. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

RAD51 Antibody (C-term) Blocking Peptide - Protein Information

Name RAD51 (HGNC:9817)

RAD51 Antibody (C-term) Blocking Peptide - Background

RAD51 a member of the RAD51 protein family. RAD51 family members are highly similar to bacterial RecA and Saccharomyces cerevisiae Rad51, and are known to be involved in the homologous recombination and repair of DNA. This protein can interact with the ssDNA-binding protein RPA and RAD52, and it is thought to play roles in homologous pairing and strand transfer of DNA. This protein is also found to interact with BRCA1 and BRCA2, which may be important for the cellular response to DNA damage. BRCA2 is shown to regulate both the intracellular localization and DNA-binding ability of this protein. Loss of these controls following BRCA2 inactivation may be a key event leading to genomic instability and tumorigenesis.

RAD51 Antibody (C-term) Blocking Peptide - References

Urbanska,K., J. Cell. Physiol. 219 (2), 392-401 (2009)Hilario,J., Proc. Natl. Acad. Sci. U.S.A. 106 (2), 361-368 (2009)Balakrishnan,K., BMC Biochem. 10, 2 (2009)

Synonyms RAD51A, RECA

Function
Plays an important role in homologous strand exchange, a key step in DNA repair through homologous recombination (HR) (PubMed:28575658). Binds to single and double-stranded DNA and exhibits DNA-dependent ATPase activity. Catalyzes the recognition of homology and strand exchange between homologous DNA partners to form a joint molecule between a processed DNA break and the repair template. Binds to single-stranded DNA in an ATP-dependent manner to form nucleoprotein filaments which are essential for the homology search and strand exchange (PubMed:26681308). Part of a PALB2-scaffolded HR complex containing BRCA2 and RAD51C and which is thought to play a role in DNA repair by HR. Plays a role in regulating mitochondrial DNA copy number under conditions of oxidative stress in the presence of RAD51C and XRCC3. Also involved in interstrand cross-link repair (PubMed:26253028).

Cellular Location
Nucleus. Cytoplasm. Cytoplasm, perinuclear region. Mitochondrion matrix Chromosome. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=Colocalizes with RAD51AP1 and RPA2 to multiple nuclear foci upon induction of DNA damage (PubMed:20154705). DNA damage induces an increase in nuclear levels (PubMed:20154705). Together with FIGNL1, redistributed in discrete nuclear DNA damage-induced foci after ionizing radiation (IR) or camptothecin (CPT) treatment (PubMed:23754376). Accumulated at sites of DNA damage in a SPIDR-dependent manner (PubMed:23509288). Recruited at sites of DNA damage in a MCM9-MCM8-dependent manner (PubMed:23401855) Colocalizes with ERCC5/XPG to nuclear foci in S phase (PubMed:26833090).

Tissue Location
Highly expressed in testis and thymus,

followed by small intestine, placenta, colon, pancreas and ovary. Weakly expressed in breast

RAD51 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides