

Rad51 (175 - 190) (CDB55)
Synthetic Peptide
Catalog # SP2142a**Specification**

Rad51 (175 - 190) (CDB55) - Product Information

Primary Accession [Q06609](#)
Other Accession [Q2KJ94](#), [P37383](#), [Q8MKI8](#), [Q77507](#), [Q08297](#)
Sequence **NH2-AERYGLSGSDVLDNVA-COOH**

Rad51 (175 - 190) (CDB55) - Additional Information**Gene ID** 5888**Other Names**

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

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 (175 - 190) (CDB55) - Protein Information**Name** RAD51 ([HGNC:9817](#))**Synonyms** RAD51A, RECA**Function**

Plays an important role in homologous strand exchange, a key step in DNA repair through homologous recombination (HR) (PubMed: [18417535](http://www.uniprot.org/citations/18417535), PubMed: [20348101](http://www.uniprot.org/citations/20348101), PubMed: [12205100](http://www.uniprot.org/citations/12205100), PubMed: [20231364](http://www.uniprot.org/citations/20231364), PubMed: [22325354](http://www.uniprot.org/citations/22325354), PubMed: [23754376](http://www.uniprot.org/citations/23754376), PubMed: [23509288](http://www.uniprot.org/citations/23509288), PubMed: [28575658](http://www.uniprot.org/citations/28575658), PubMed: [26681308](http://www.uniprot.org/citations/26681308), PubMed: [32640219](http://www.uniprot.org/citations/32640219)). 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:18417535, PubMed:20348101, PubMed:12205100, PubMed:20231364, PubMed:23754376, PubMed:23509288, PubMed:28575658, PubMed:26681308). 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 (PubMed:18417535, PubMed:20348101, PubMed:12205100, PubMed:20231364, PubMed:23754376, PubMed:23509288, PubMed:28575658, PubMed:26681308). Recruited to resolve stalled replication forks during replication stress (PubMed:27797818, PubMed:31844045). Part of a PALB2- scaffolded HR complex containing BRCA2 and RAD51C and which is thought to play a role in DNA repair by HR (PubMed:24141787, PubMed:12442171). Plays a role in regulating mitochondrial DNA copy number under conditions of oxidative stress in the presence of RAD51C and XRCC3 (PubMed:20413593). 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 FIGL1, 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). Recruited at sites of DNA damage following interaction with TOPBP1 in S-phase (PubMed:26811421). Colocalizes with ERCC5/XPG to nuclear foci in S phase (PubMed:26833090). Recruited to stalled replication forks during replication stress by the TONSL-MMS22L complex, as well as ATAD5 and WDR48 in an ATR-dependent manner (PubMed:27797818, PubMed:31844045)

Tissue Location

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

Rad51 (175 - 190) (CDB55) - Images