

**RAD51 / RECA Antibody (clone 13E4)**  
**Mouse Monoclonal Antibody**  
**Catalog # ALS13617****Specification**

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**RAD51 / RECA Antibody (clone 13E4) - Product Information**

Application	IHC
Primary Accession	<a href="#">Q06609</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	37kDa KDa

**RAD51 / RECA Antibody (clone 13E4) - Additional Information****Gene ID** 5888**Other Names**

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

**Target/Specificity**

Recombinant human Rad51 protein.

**Reconstitution & Storage**

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

**Precautions**

RAD51 / RECA Antibody (clone 13E4) is for research use only and not for use in diagnostic or therapeutic procedures.

**RAD51 / RECA Antibody (clone 13E4) - 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: [12205100](http://www.uniprot.org/citations/12205100) target="\_blank">12205100</a>, PubMed: [18417535](http://www.uniprot.org/citations/18417535) target="\_blank">18417535</a>, PubMed: [20231364](http://www.uniprot.org/citations/20231364) target="\_blank">20231364</a>, PubMed: [20348101](http://www.uniprot.org/citations/20348101) target="\_blank">20348101</a>, PubMed: [22325354](http://www.uniprot.org/citations/22325354) target="\_blank">22325354</a>, PubMed: [23509288](http://www.uniprot.org/citations/23509288) target="\_blank">23509288</a>, PubMed: [23754376](http://www.uniprot.org/citations/23754376) target="\_blank">23754376</a>, PubMed: [26681308](http://www.uniprot.org/citations/26681308) target="\_blank">26681308</a>, PubMed: [28575658](http://www.uniprot.org/citations/28575658) target="\_blank">28575658</a>

target="\_blank">28575658</a>, PubMed:<a href="http://www.uniprot.org/citations/32640219" target="\_blank">32640219</a>). 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:<a href="http://www.uniprot.org/citations/12205100" target="\_blank">12205100</a>, PubMed:<a href="http://www.uniprot.org/citations/18417535" target="\_blank">18417535</a>, PubMed:<a href="http://www.uniprot.org/citations/20231364" target="\_blank">20231364</a>, PubMed:<a href="http://www.uniprot.org/citations/20348101" target="\_blank">20348101</a>, PubMed:<a href="http://www.uniprot.org/citations/23509288" target="\_blank">23509288</a>, PubMed:<a href="http://www.uniprot.org/citations/23754376" target="\_blank">23754376</a>, PubMed:<a href="http://www.uniprot.org/citations/26681308" target="\_blank">26681308</a>, PubMed:<a href="http://www.uniprot.org/citations/28575658" target="\_blank">28575658</a>). 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:<a href="http://www.uniprot.org/citations/12205100" target="\_blank">12205100</a>, PubMed:<a href="http://www.uniprot.org/citations/18417535" target="\_blank">18417535</a>, PubMed:<a href="http://www.uniprot.org/citations/20231364" target="\_blank">20231364</a>, PubMed:<a href="http://www.uniprot.org/citations/20348101" target="\_blank">20348101</a>, PubMed:<a href="http://www.uniprot.org/citations/23509288" target="\_blank">23509288</a>, PubMed:<a href="http://www.uniprot.org/citations/23754376" target="\_blank">23754376</a>, PubMed:<a href="http://www.uniprot.org/citations/26681308" target="\_blank">26681308</a>, PubMed:<a href="http://www.uniprot.org/citations/28575658" target="\_blank">28575658</a>, PubMed:<a href="http://www.uniprot.org/citations/38459011" target="\_blank">38459011</a>). Recruited to resolve stalled replication forks during replication stress (PubMed:<a href="http://www.uniprot.org/citations/27797818" target="\_blank">27797818</a>, PubMed:<a href="http://www.uniprot.org/citations/31844045" target="\_blank">31844045</a>). 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:<a href="http://www.uniprot.org/citations/12442171" target="\_blank">12442171</a>, PubMed:<a href="http://www.uniprot.org/citations/24141787" target="\_blank">24141787</a>). Plays a role in regulating mitochondrial DNA copy number under conditions of oxidative stress in the presence of RAD51C and XRCC3 (PubMed:<a href="http://www.uniprot.org/citations/20413593" target="\_blank">20413593</a>). Also involved in interstrand cross-link repair (PubMed:<a href="http://www.uniprot.org/citations/26253028" target="\_blank">26253028</a>).

### 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). 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

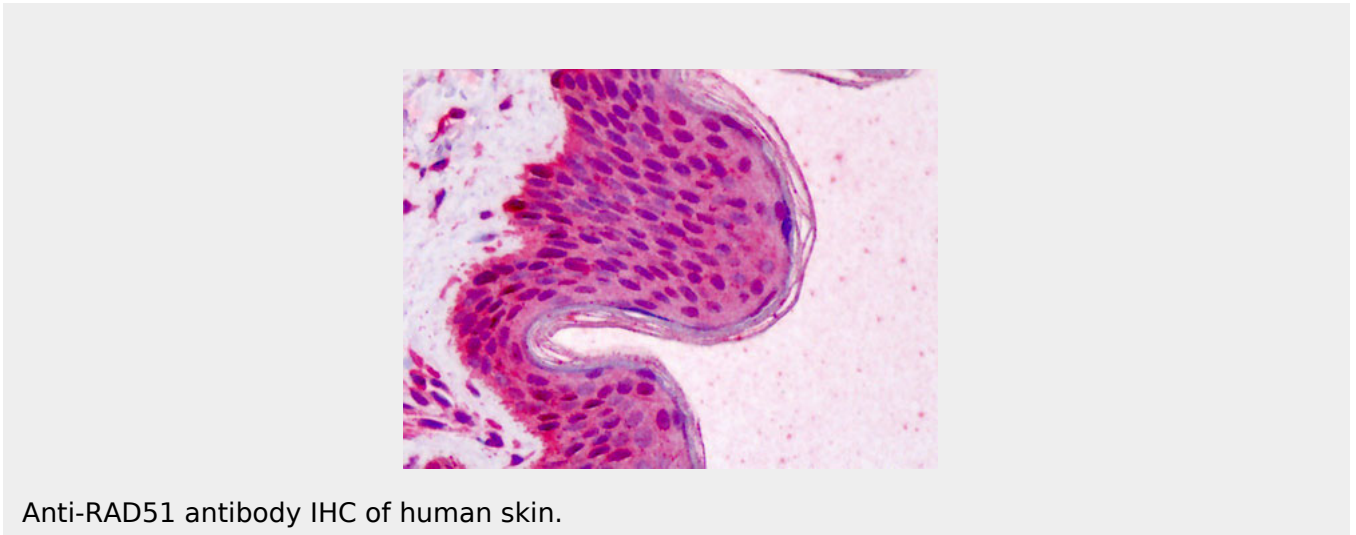
Highly expressed in testis and thymus, followed by small intestine, placenta, colon, pancreas and ovary. Weakly expressed in breast

## RAD51 / RECA Antibody (clone 13E4) - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **RAD51 / RECA Antibody (clone 13E4) - Images**



Anti-RAD51 antibody IHC of human skin.

#### **RAD51 / RECA Antibody (clone 13E4) - Background**

Participates in a common DNA damage response pathway associated with the activation of homologous recombination and double-strand break repair. Binds to single and double-stranded DNA and exhibits DNA-dependent ATPase activity. Underwinds duplex DNA and forms helical nucleoprotein filaments. 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.

#### **RAD51 / RECA Antibody (clone 13E4) - References**

- Shinohara A., et al. *Nat. Genet.* 4:239-243(1993).  
Yoshimura Y., et al. *Nucleic Acids Res.* 21:1665-1665(1993).  
Schmutte C., et al. *Cancer Res.* 59:4564-4569(1999).  
Wang W.W., et al. *Cancer Epidemiol. Biomarkers Prev.* 10:955-960(2001).  
Park J.Y., et al. *Nucleic Acids Res.* 36:3226-3234(2008).