

Rad51 Polyclonal Antibody
Catalog # AP72148**Specification****Rad51 Polyclonal Antibody - Product Information**

Application	WB
Primary Accession	Q06609
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal

Rad51 Polyclonal Antibody - Additional Information**Gene ID** 5888**Other Names**

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

Dilution

WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/20000. Not yet tested in other applications.

Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions

-20°C

Rad51 Polyclonal Antibody - 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, PubMed: [18417535](http://www.uniprot.org/citations/18417535) target="_blank">18417535, PubMed: [20231364](http://www.uniprot.org/citations/20231364) target="_blank">20231364, PubMed: [20348101](http://www.uniprot.org/citations/20348101) target="_blank">20348101, PubMed: [22325354](http://www.uniprot.org/citations/22325354) target="_blank">22325354, PubMed: [23509288](http://www.uniprot.org/citations/23509288) target="_blank">23509288, PubMed: [23754376](http://www.uniprot.org/citations/23754376) target="_blank">23754376, PubMed: [26681308](http://www.uniprot.org/citations/26681308) target="_blank">26681308, PubMed: [28575658](http://www.uniprot.org/citations/28575658) target="_blank">28575658, PubMed: [32640219](http://www.uniprot.org/citations/32640219) target="_blank">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:12205100, PubMed:18417535, PubMed:20231364, PubMed:20348101, PubMed:23509288, PubMed:23754376, PubMed:26681308, PubMed:28575658). 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:12205100, PubMed:18417535, PubMed:20231364, PubMed:20348101, PubMed:23509288, PubMed:23754376, PubMed:26681308, PubMed:28575658, PubMed:38459011). 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:12442171, PubMed:24141787). 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 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

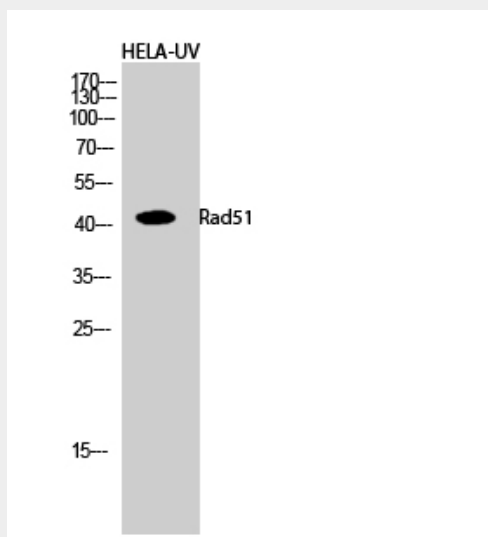
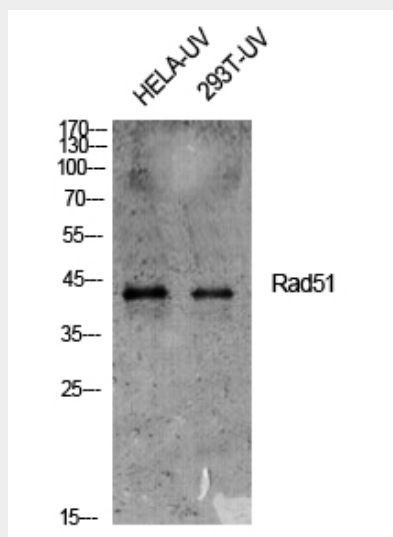
Rad51 Polyclonal Antibody - Protocols

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

- [Western Blot](#)

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

Rad51 Polyclonal Antibody - Images



Rad51 Polyclonal Antibody - Background

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).