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Anti-Human RAD 54 (RABBIT) Antibody

RAD54 Antibody
Catalog # ASR5274

Specification

Anti-Human RAD 54 (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**This affinity purified antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 84 kDa in size corresponding to RAD54 protein by western blotting in the appropriate cell lysate or extract. Splice variants exist for this protein that may result in the detection of lower molecular weight bands.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a N-Terminal region near aa 1-25 of Human RAD54 protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-Human RAD 54 (RABBIT) Antibody - Additional Information

Gene ID 8438

Other Names
603761

Purity
This product is an affinity-purified antibody produced by immunoaffinity chromatography using peptide coupled to agarose beads. BLAST analysis indicates 100 % homology of the immunizing sequence with RAD54 from human. Cross reactivity with RAD54 protein homologues from other sources may not occur as sequence homology varies by at least one amino acid residue in this sequence.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after

standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-Human RAD 54 (RABBIT) Antibody - Protein Information

Name RAD54L

Synonyms RAD54A

Function
Plays an essential role in homologous recombination (HR) which is a major pathway for repairing DNA double-strand breaks (DSBs), single-stranded DNA (ssDNA) gaps, and stalled or collapsed replication forks (PubMed:11459989, PubMed:12205100, PubMed:24798879, PubMed:27264870, PubMed:32457312, PubMed:9774452). Acts as a molecular motor during the homology search and guides RAD51 ssDNA along a donor dsDNA thereby changing the homology search from the diffusion-based mechanism to a motor-guided mechanism. Also plays an essential role in RAD51-mediated synaptic complex formation which consists of three strands encased in a protein filament formed once homology is recognized. Once DNA strand exchange occured, dissociates RAD51 from nucleoprotein filaments formed on dsDNA (By similarity).

Cellular Location
Nucleus.

Anti-Human RAD 54 (RABBIT) 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 Cytomety
- Cell Culture

Anti-Human RAD 54 (RABBIT) Antibody - Images

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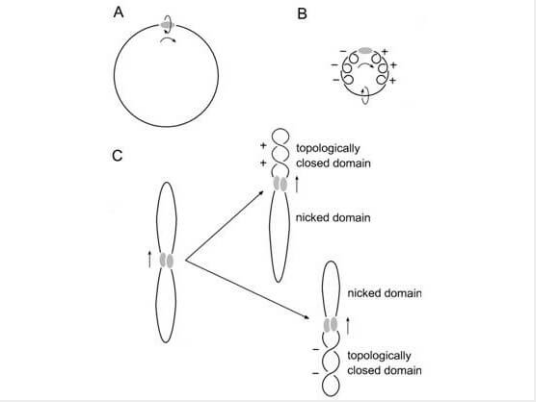

The hRad54 complex and plasmid DNA are indicated by the shaded oval and black line, respectively. (A) Movement of the hRad54 complex by tracking along the helical path of DNA is indicated by the arrows. When the complex is free to rotate around the DNA, no change in supercoiling will be induced in the plasmid DNA. (B) When the hRad54 complex tracks along the helix, while being prevented from rotating around the DNA, positive supercoils will arise ahead of the protein complex and negative supercoils behind it. These supercoils can freely distribute along the plasmid and therefore they will cancel each other out. (C) The interaction of two hRad54 complexes on a plasmid will divide the plasmid into two domains. Because the plasmid is singly nicked, one domain will contain a nick, whereas the other contains two covalently closed DNA strands. Depending on the position of the nick relative to the movement of the protein complex along the DNA, topoisomers containing either negative or positive supercoils will result after ligation of the nick.

Anti-Human RAD 54 (RABBIT) Antibody - Background

RAD54, also known as hHR54, HR54, hRAD54 and RAD54A, belongs to the DEAD-like helicase superfamily, and shares similarity with Saccharomyces cerevisiae Rad54, a protein known to be involved in the homologous recombination and repair of DNA. This protein has been shown to play a role in homologous recombination related repair of DNA double-strand breaks. The binding of this protein to double-strand DNA induces a DNA topological change, which is thought to facilitate homologous DNA pairing, and stimulate DNA recombination.