Anti-Rad51 antibody ab88572

Overview

Product name: Anti-Rad51 antibody
Description: Mouse polyclonal to Rad51
Host species: Mouse
Tested applications: Suitable for: WB, IHC-P, ICC/IF
Species reactivity: Reacts with: Mouse, Rat, Human
Immunogen: Full length Human protein (NP_002866.2)
Positive control: WB: lysate from PC-12, Raw 264.7, Jurkat, NIH 3T3 cells or Human colon tissue. IHC: Human testis. ICC/IF: HeLa cells.

Properties

Form: Liquid
Storage instructions: Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer: pH: 7.20
Constituent: 100% PBS
Purity: Protein A purified
Clonality: Polyclonal
Isotype: IgG

Applications

Our Abpromise guarantee covers the use of ab88572 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>WB</td>
<td>★★★★★</td>
<td>Use a concentration of 1 µg/ml. Predicted molecular weight: 37 kDa.</td>
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<tr>
<td>IHC-P</td>
<td>★★★★★☆</td>
<td>Use a concentration of 3 µg/ml. Antigen retrieval is not essential but may optimise staining. The microwave method is recommended.</td>
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Function
Plays an important role in homologous strand exchange, a key step in DNA repair through homologous recombination. 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.

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

Involvement in disease
Breast cancer
Mirror movements
Defects in RAD51 are found in a patient with microcephaly, mental retardation without bone marrow failure and pediatric cancers.

Sequence similarities
Belongs to the RecA family. RAD51 subfamily.
Contains 1 HhH domain.

Domain
The nuclear localization may reside in the C-terminus (between 259 and 339 AA).

Post-translational modifications
Ubiquitinated by the SCF(FBXO18) E3 ubiquitin ligase complex, regulating RAD51 subcellular location and preventing its association with DNA.
Phosphorylated. Phosphorylation of Thr-309 by CHEK1 may enhance association with chromatin at sites of DNA damage and promote DNA repair by homologous recombination.
Phosphorylation by ABL1 inhibits function.

Cellular localization
Nucleus. Cytoplasm. Cytoplasm, perinuclear region. Mitochondrion matrix. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Colocalizes with RAD51AP1 and RPA2 to multiple nuclear foci upon induction of DNA damage. DNA damage induces an increase in nuclear levels. Together with FIGNL1, redistributed in discrete nuclear DNA damage-induced foci after ionizing radiation (IR) or camptothecin (CPT) treatment. Accumulated at sites of DNA damage in a SPIDR-dependent manner.
Western blot - Anti-Rad51 antibody (ab88572) at 1 µg/ml + Human colon lysate at 50 µg

**Predicted band size:** 37 kDa

Immunofluorescent staining of Rad51 in HeLa cells using ab88572 at 10 µg/ml.

ab88572 at 3µg/ml staining Rad51 in formalin-fixed, paraffin-embedded Human testis tissue.
Anti-Rad51 antibody (ab88572) at 1 µg/ml + PC-12 cell lysate at 50 µg

**Predicted band size:** 37 kDa

Anti-Rad51 antibody (ab88572) at 1 µg/ml + Raw 264.7 cell lysate at 50 µg

**Predicted band size:** 37 kDa

Anti-Rad51 antibody (ab88572) at 1 µg/ml + Jurkat cell lysate at 50 µg

**Predicted band size:** 37 kDa

Anti-Rad51 antibody (ab88572) at 1 µg/ml + NIH 3T3 cell lysate at 50 µg

**Predicted band size:** 37 kDa
All lanes: Anti-Rad51 antibody (ab88572) at 1 µg/ml

Lane 1: transfected 293T cell lysate
Lane 2: non transfected lysate

Lysates/proteins at 25 µg per lane.

Predicted band size: 37 kDa

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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