

Product datasheet

Anti-Rad51 antibody ab137323

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Overview

Product name	Anti-Rad51 antibody
Description	Rabbit polyclonal to Rad51
Host species	Rabbit
Tested applications	Suitable for: WB, ICC/IF, IHC-P
Species reactivity	Reacts with: Mouse, Human Predicted to work with: Rat, Rabbit, Chicken, Cow, Dog, Zebrafish, Xenopus tropicalis 
Immunogen	Recombinant fragment, corresponding to a region within amino acids 1-228 of Human Rad51.
Positive control	Recombinant human Rad51 protein (ab63808) can be used as a positive control in WB. H1299, HepG2, NIH-3T3 whole cell lysates; 293T, A431, MOLT4, Raji cell lines; H1299, HeLa cells; Cal27 Human xenograft tissue.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.00 Preservative: 0.025% Proclin Constituents: PBS, 20% Glycerol
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab137323** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

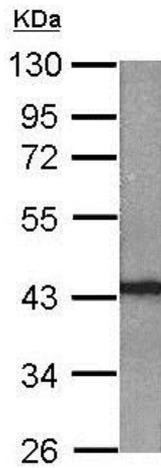
Application	Abreviews	Notes
WB		1/500 - 1/3000. Predicted molecular weight: 37 kDa.Can be blocked with Recombinant human Rad51 protein (Active) (ab63808) .

Application	Abreviews	Notes
ICC/IF		1/100 - 1/1000.
IHC-P		1/100 - 1/1000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. Antigen retrieval using heat mediated Tris/EDTA buffer (pH 8.0) is also possible.

Target

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 2 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.

Images

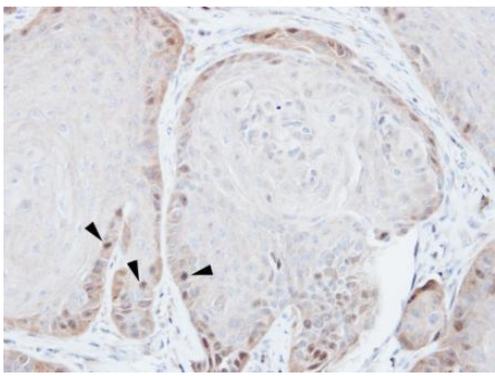


Western blot - Anti-Rad51 antibody (ab137323)

Anti-Rad51 antibody (ab137323) at 1/1000 dilution + NIH-3T3 whole cell lysate at 30 μ g

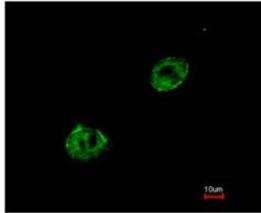
Predicted band size: 37 kDa

10% SDS Page

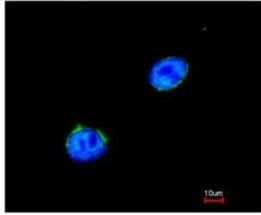


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad51 antibody (ab137323)

Immunohistochemical analysis of paraffin-embedded, formalin-fixed Cal27 Human xenograft tissue labelling Rad51, using ab137323 at a 1/100 dilution.

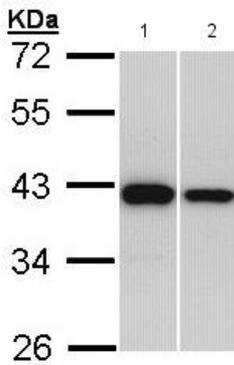


Merged with DNA probe



Immunocytochemistry/ Immunofluorescence - Anti-Rad51 antibody (ab137323)

Immunofluorescence analysis of paraformaldehyde-fixed HeLa cells staining Rad51, using ab137323 (green) at a 1/200 dilution. Cell nuclei are shown in blue.



Western blot - Anti-Rad51 antibody (ab137323)

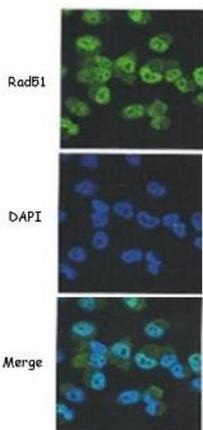
All lanes : Anti-Rad51 antibody (ab137323) at 1/1000 dilution

Lane 1 : H1299 whole cell lysate

Lane 2 : HepG2 whole cell lysate

Lysates/proteins at 30 µg per lane.

Predicted band size: 37 kDa



Immunocytochemistry/ Immunofluorescence - Anti-Rad51 antibody (ab137323)

Immunofluorescence analysis of paraformaldehyde-fixed H1299, labelling Rad51 using ab137323 at 1/400 dilution. Middle panel cell nuclei are shown in blue. Lower panel merged.

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