

## Product datasheet

# Anti-Rad51 antibody [EPR4031(23)] ab133553

Recombinant **RabMAb**

[4 Images](#)

### Overview

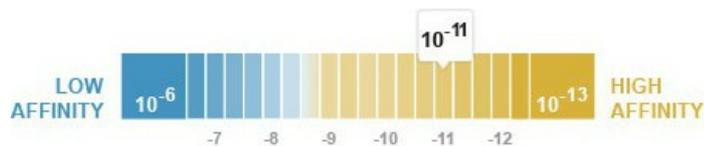
<b>Product name</b>	Anti-Rad51 antibody [EPR4031(23)]
<b>Description</b>	Rabbit monoclonal [EPR4031(23)] to Rad51
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> Flow Cyt, IHC-P, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	Synthetic peptide within Human Rad51 (C terminal). The exact sequence is proprietary.
<b>Positive control</b>	IHC-P: Human prostate adenocarcinoma and human testis tissues. Flow Cyt: Jurkat cells.
<b>General notes</b>	

Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to [RabMAb<sup>®</sup> patents](#).

This product is a [recombinant rabbit monoclonal antibody](#).

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
<b>Dissociation constant (K<sub>D</sub>)</b>	K <sub>D</sub> = 8.93 x 10 <sup>-11</sup> M



[Learn more about K<sub>D</sub>](#)

<b>Storage buffer</b>	pH: 7.40 Preservative: 0.05% Sodium azide Constituents: 40% Glycerol, 9.85% Tris glycine, 50% Tissue culture supernatant
<b>Purity</b>	Tissue culture supernatant
<b>Clonality</b>	Monoclonal

**Clone number**                      EPR4031(23)

**Isotype**                                IgG

## Applications

Our [Abpromise guarantee](#) covers the use of **ab133553** in the following tested applications.

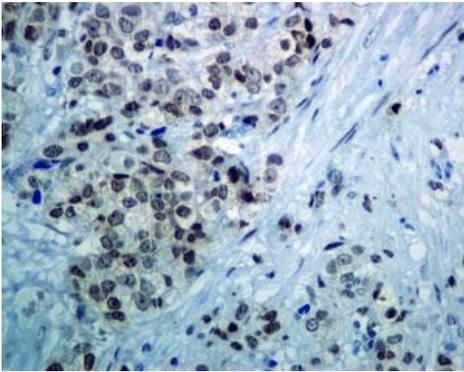
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt		1/400.
IHC-P		1/250 - 1/500. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ICC/IF		1/50 - 1/100.

## Target

<b>Function</b>	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.
<b>Tissue specificity</b>	Highly expressed in testis and thymus, followed by small intestine, placenta, colon, pancreas and ovary. Weakly expressed in breast.
<b>Involvement in disease</b>	Breast cancer Mirror movements 2 Defects in RAD51 are found in a patient with microcephaly, mental retardation without bone marrow failure and pediatric cancers.
<b>Sequence similarities</b>	Belongs to the RecA family. RAD51 subfamily. Contains 1 HhH domain.
<b>Domain</b>	The nuclear localization may reside in the C-terminus (between 259 and 339 AA).
<b>Post-translational modifications</b>	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.
<b>Cellular localization</b>	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 FIGL1, redistributed in discrete nuclear DNA damage-induced foci after ionizing radiation (IR) or camptothecin (CPT) treatment. Accumulated at sites of DNA

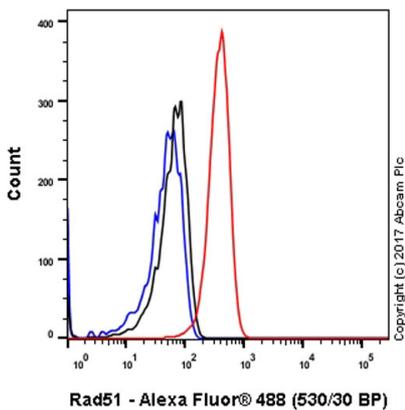
## Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad51 antibody [EPR4031(23)] (ab133553)

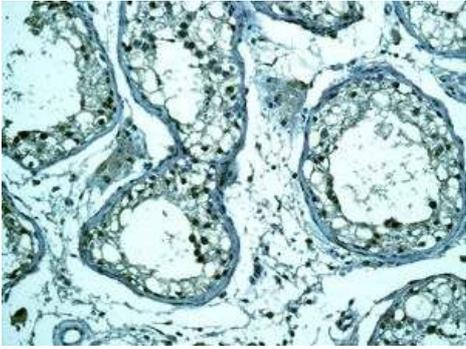
Immunohistochemical analysis of paraffin-embedded Human prostate adenocarcinoma tissue labelling Rad51 with ab133553 antibody at a dilution of 1/250.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry - Anti-Rad51 antibody [EPR4031(23)] (ab133553)

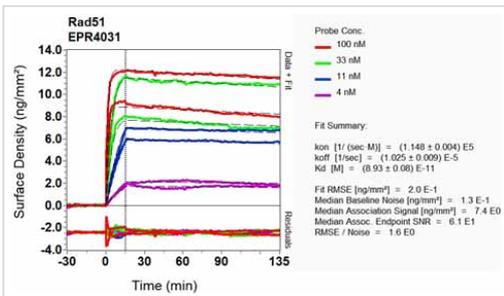
Flow cytometry analysis of Jurkat (human acute T cell leukemia) cells labeling Rad51 (red) with ab133553 at a 1/400 dilution. Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at a 1/2000 dilution. Black - Rabbit monoclonal IgG (ab172730). Blue (unlabeled control) - Cells without incubation with the primary and secondary antibodies.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad51 antibody [EPR4031(23)] (ab133553)

Immunohistochemical analysis of paraffin embedded Human testis tissue labelling Rad51 with ab133553 antibody at a dilution of 1/250.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Other - Anti-Rad51 antibody [EPR4031(23)] (ab133553)

Equilibrium dissociation constant ( $K_D$ )

Learn more about  $K_D$

[Click here to learn more about  \$K\_D\$](#)

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