

## Product datasheet

# Anti-Rad51 antibody [EPR4031(23)] - BSA and Azide free ab234634

Recombinant RabMAb

### Overview

<b>Product name</b>	Anti-Rad51 antibody [EPR4031(23)] - BSA and Azide free
<b>Description</b>	Rabbit monoclonal [EPR4031(23)] to Rad51 - BSA and Azide free
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> IHC-P, ICC/IF, Flow Cyt
<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>	Ab234634 is the carrier-free version of <a href="#">ab133553</a> . This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes.

Our [carrier-free formats](#) are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency.

Use our [conjugation kits](#) for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

ab234634 is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm.

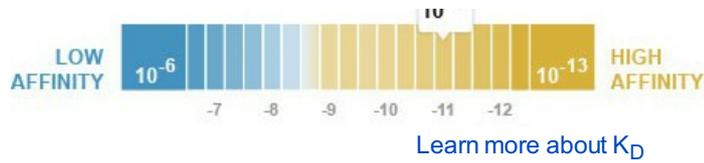
*Maxpar® is a trademark of Fluidigm Canada Inc.*

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

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

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
<b>Dissociation constant (K<sub>D</sub>)</b>	K <sub>D</sub> = 8.93 x 10 <sup>-11</sup> M



<b>Storage buffer</b>	Constituent: PBS
<b>Purity</b>	Affinity purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR4031(23)
<b>Isotype</b>	IgG

## Applications

Our [Abpromise guarantee](#) covers the use of **ab234634** 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
IHC-P		Use at an assay dependent concentration.
ICC/IF		Use at an assay dependent concentration.
Flow Cyt		Use at an assay dependent concentration.

## 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.

### **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 FIGL1, 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.

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

### **Our Abpromise to you: Quality guaranteed and expert technical support**

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- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
  
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

### **Terms and conditions**

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- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors