abcam

Product datasheet

Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free ab221796

重组 RabMAb

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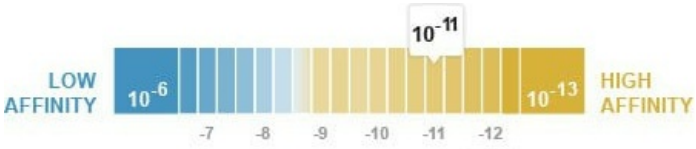
概述

产品名称	Anti-Rad51抗体[EPR4030(3)] - BSA and Azide free
描述	兔单克隆抗体[EPR4030(3)] to Rad51 - BSA and Azide free
宿主	Rabbit
经测试应用	**适用于:** WB, IP, IHC-P, ICC/IF, Flow Cyt (Intra)
种属反应性	**与反应:** Mouse, Rat, Human
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
阳性对照	WB: C6, NIH/3T3, 293T, Jurkat, HeLa, and K562 cell lysates and mouse spleen tissue lysate. IHC-P: Human cervix carcinoma, lung and testis tissues. ICC/IF: Jurkat cells. Flow Cyt (intra): HeLa cells. IP: HEK293 cell lysates.
常规说明	ab221796 is the carrier-free version of **ab133534**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications. 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. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. 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**.

性能

形式	Liquid

存放说明	Shipped at 4°C. Store at +4°C. Do Not Freeze.
解离常数 (K_D)	K_D = 9.20 x 10 $^{-11}$ M



Learn more about K_D

存储溶液	pH: 7.2 Constituent: PBS
无载体	是
纯度	Protein A purified
克隆	单克隆
克隆编号	EPR4030(3)
同种型	IgG

应用

The Abpromise guarantee Abpromise™承诺保证使用ab221796于以下的经测试应用

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
WB		Use at an assay dependent concentration. Detects a band of approximately 37 kDa (predicted molecular weight: 37 kDa).
IP		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**.
ICC/IF	★★★★☆ (1)	Use at an assay dependent concentration.
Flow Cyt (Intra)		Use at an assay dependent concentration. **ab199376** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

靶标

功能 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.

组织特异性

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

疾病相关

Breast cancer
Mirror movements 2
Defects in RAD51 are found in a patient with microcephaly, mental retardation without bone marrow failure and pediatric cancers.

序列相似性

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

结构域

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

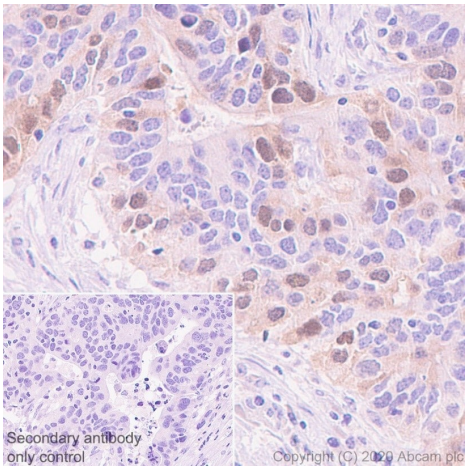
翻译后修饰

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.

细胞定位

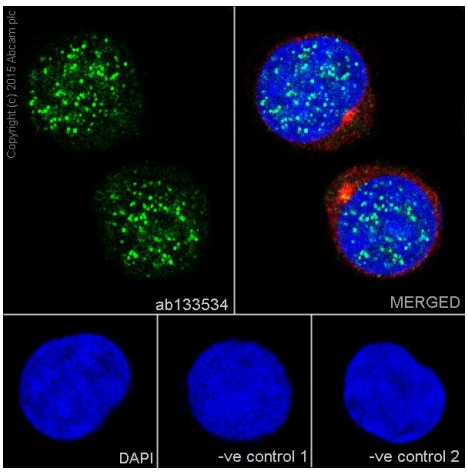
Nucleus. Cytoplasm. Cytoplasm, perinuclear region. Mitochondrion matrix. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Colocalizes with RAD51AP1 and RPA2 to multiple nuclear foci upon induction of DNA damage. DNA damage induces an increase in nuclear levels. Together with FIGNL1, 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.

图片



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free (ab221796)

Immunohistochemistry (PFA-fixed paraffin-embedded sections) analysis of human colonic carcinoma tissue labelling with ab221796 at 0.54µg/mL. Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer pH 9). A HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody. Counterstained with hematoxylin.



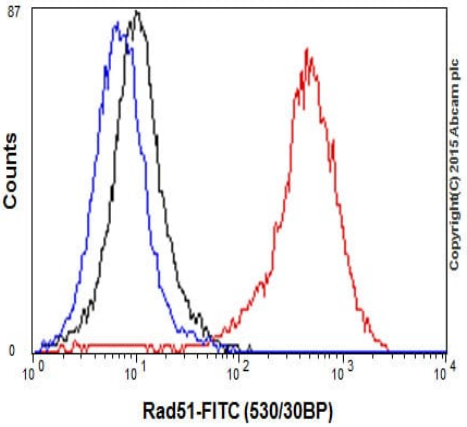
Immunocytochemistry/ Immunofluorescence - Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free (ab221796)

Immunocytochemistry/Immunofluorescence analysis of Jurkat (human T cell leukemia cell line from peripheral blood) cells labelling Rad51 with purified **ab133534** at 1/1000. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. **ab150077**, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain. **ab7291**, a mouse anti-tubulin (1/1000) and **ab150120**, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/1000) were also used.

Control 1: primary antibody (1/1000) and secondary antibody, **ab150120**, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/1000).

Control 2: **ab7291** (1/1000) and secondary antibody, **ab150077**, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000).

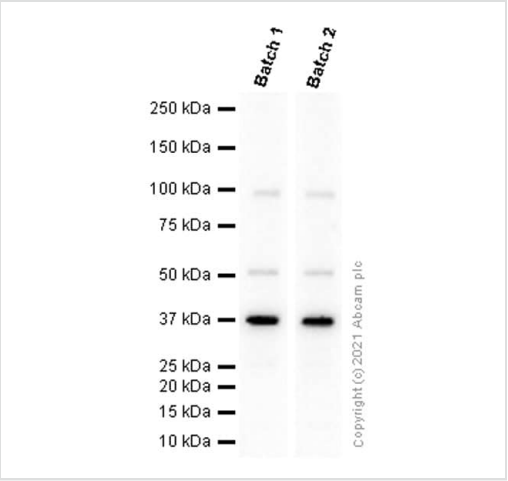
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab133534**).



Flow Cytometry (Intracellular) - Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free (ab221796)

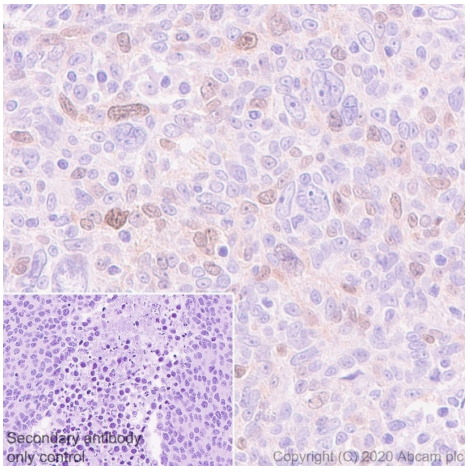
Intracellular Flow Cytometry analysis of HeLa (human epithelial cell line from cervix adenocarcinoma) cells labelling Rad51 with purified **ab133534** at 1/350 (red). Cells were fixed with 2% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG (1/500) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab133534**).



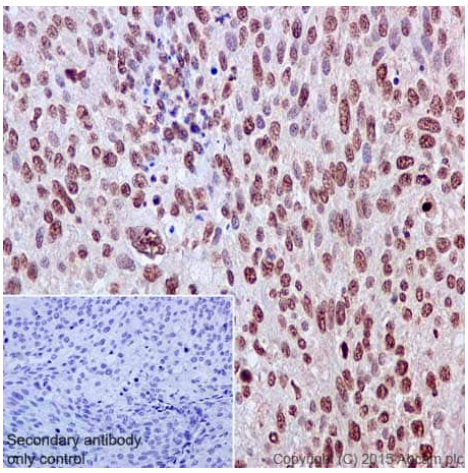
Western blot - Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free (ab221796)

This data was developed using **ab133534**, the same antibody clone in a different buffer formulation. Different batches of **ab133534** were tested on HEK-293 (Human embryonic kidney epithelial cell) lysate at 2.1 µg/ml. 15 µg of lysate was loaded in each lane. Bands observed at 37 kDa.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free (ab221796)

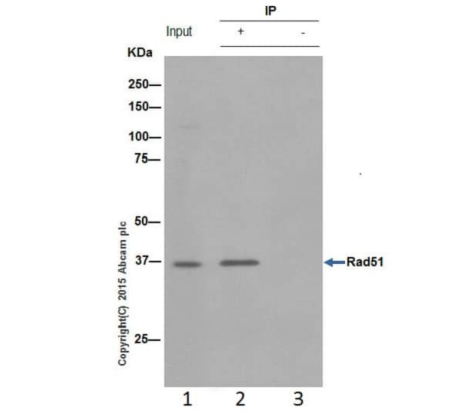
Immunohistochemistry (PFA-fixed paraffin-embedded sections) analysis of human lung carcinoma tissue labelling with ab221796 at 0.54µg/mL. Heat mediated antigen retrieval was performed using **ab92684** (Tris/EDTA buffer pH 9). A HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody. Counterstained with hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free (ab221796)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cervix carcinoma tissue labelling Rad51 with purified **ab133534** at 1/500. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. **ab97051**, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab133534**).



Immunoprecipitation - Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free (ab221796)

ab133534 (purified) at 1/100 immunoprecipitating Rad51 in HEK-293 (human epithelial cell line from embryonic kidney) whole cell lysate.

Lane 1 (input): HEK-293 whole cell lysate (10µg)

Lane 2 (+): **ab133534** + HEK-293 whole cell lysate.

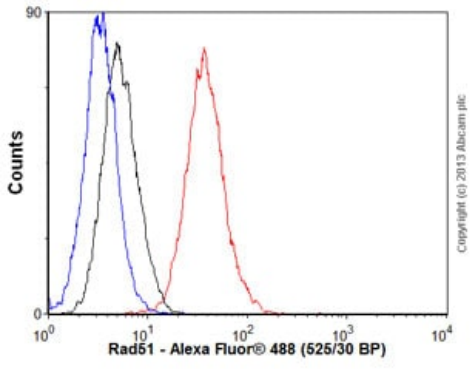
Lane 3 (-): Rabbit monoclonal IgG (**ab172730**) instead of **ab133534** in HEK-293 whole cell lysate.

For western blotting, a HRP-conjugated anti-rabbit IgG, specific to the non-reduced form of IgG was used as the secondary antibody (1/1500).

Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

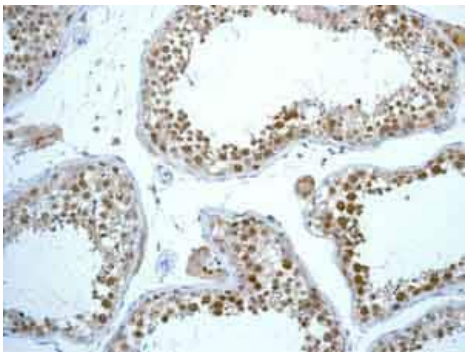
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab133534**).



Flow Cytometry (Intracellular) - Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free (ab221796)

Overlay histogram showing HeLa (human epithelial cell line from cervix adenocarcinoma) cells stained with unpurified **ab133534** (red line). The cells were fixed with 80% methanol (5 minutes) and then permeabilized with 0.1% PBS-Tween for 20 minutes. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (unpurified **ab133534**, 1/1000 dilution) for 30 minutes at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) (**ab150077**) at 1/2000 dilution for 30 minutes at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1 µg/1x10^6 cells) used under the same conditions. Unlabeled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab133534**).

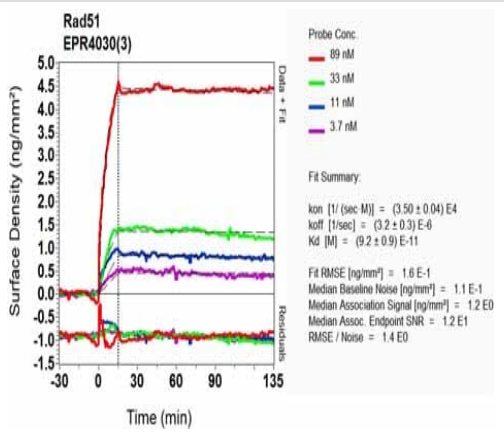


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free (ab221796)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human testis tissue labelling Rad51 with unpurified **ab133534** at a dilution of 1/100.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab133534**).

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



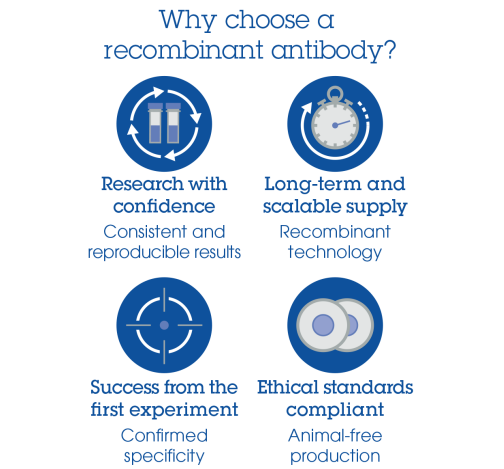
OI-RD Scanning - Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free (ab221796)

Equilibrium disassociation constant (K_D)

Learn more about K_D

Click here to learn more about K_D

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab133534**).



Anti-Rad51 antibody [EPR4030(3)] - BSA and Azide free (ab221796)

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