abcam

Product datasheet

Anti-Rad50 antibody [EPR20968] - BSA and Azide free ab236460

Recombinant RabMAb

6 Images

Overview

Product name	Anti-Rad50 antibody [EPR20968] - BSA and Azide free
Description	Rabbit monoclonal [EPR20968] to Rad50 - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** WB, IHC-P, ChIP
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	IHC-P: Human breast tissue.
General notes	ab236460 is the carrier-free version of **ab208019**. 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. This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR20968
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab236460 in the following tested applications.

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

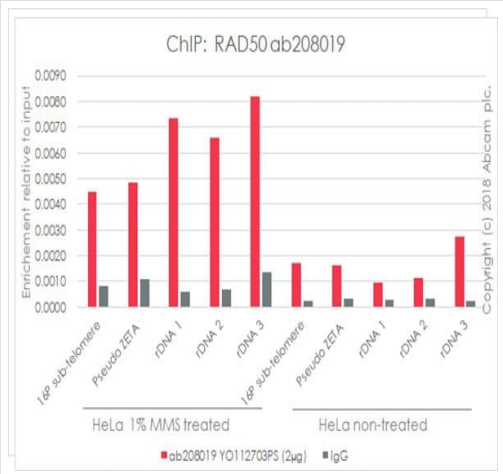
Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Detects a band of approximately 154 kDa (predicted molecular weight: 153 kDa).
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
ChIP		Use at an assay dependent concentration.

Target

Function	Component of the MRN complex, which plays a central role in double-strand break (DSB) repair, DNA recombination, maintenance of telomere integrity and meiosis. The complex possesses single-strand endonuclease activity and double-strand-specific 3'-5' exonuclease activity, which are provided by MRE11A. RAD50 may be required to bind DNA ends and hold them in close proximity. This could facilitate searches for short or long regions of sequence homology in the recombining DNA templates, and may also stimulate the activity of DNA ligases and/or restrict the nuclease activity of MRE11A to prevent nucleolytic degradation past a given point. The complex may also be required for DNA damage signaling via activation of the ATM kinase. In telomeres the MRN complex may modulate t-loop formation.
Tissue specificity	Expressed at very low level in most tissues, except in testis where it is expressed at higher level. Expressed in fibroblasts.
Involvement in disease	Defects in RAD50 are the cause of Nijmegen breakage syndrome-like disorder (NBSLD) [MIM:613078]; also called NBS-like disorder or RAD50 deficiency. NBSLD is a disorder similar to Nijmegen breakage syndrome and characterized by chromosomal instability, radiation sensitivity, microcephaly, growth retardation, short stature and bird-like face. Immunodeficiency is absent.
Sequence similarities	Belongs to the SMC family. RAD50 subfamily.

	Contains 1 zinc-hook domain.
Domain	The zinc-hook, which separates the large intramolecular coiled coil regions, contains 2 Cys residues that coordinate one molecule of zinc with the help of the 2 Cys residues of the zinc-hook of another RAD50 molecule, thereby forming a V-shaped homodimer. The two heads of the homodimer, which constitute the ATP-binding domain, interact with the MRE11A homodimer.
Post-translational modifications	Phosphorylated upon DNA damage, probably by ATM or ATR.
Cellular localization	Nucleus. Chromosome > telomere. Localizes to discrete nuclear foci after treatment with genotoxic agents.

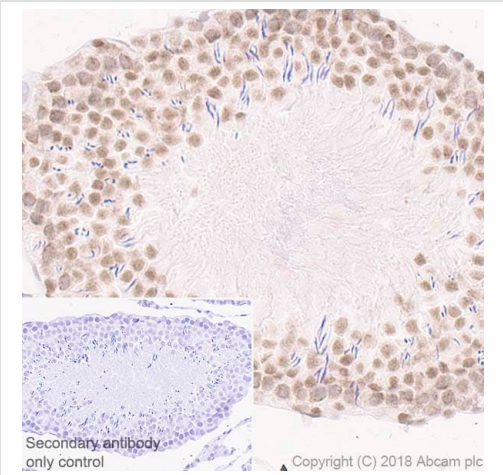
Images



ChIP - Anti-Rad50 antibody [EPR20968] - BSA and Azide free (ab236460)

Chromatin was prepared from HeLa (human epithelial cell line from cervix adenocarcinoma) cells treated with 1% methymethanesulfonate (MMS) according to the Abcam X-ChIP protocol. Cells were fixed with formaldehyde for 10min. The ChIP was performed with 25 µg of chromatin, 2 µg of **ab208019** (red), and 20 µl of Protein A/G sepharose beads. 2µg of rabbit normal IgG was added to the beads control (gray). The immunoprecipitated DNA was quantified by real time PCR (SYBR green approach). rDNA primers used are located in the region of ribosomal gene loci following the publication PMID:21029860(rDNA 1: rDNA 13017F/13068R ; rDNA 2 : rDNA 1125F/1201R ; rDNA 3 : rDNA 30409F/30566R).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab208019**).



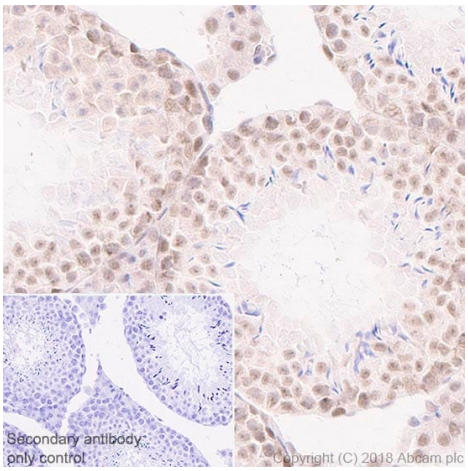
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad50 antibody [EPR20968] - BSA and Azide free (ab236460)

Immunohistochemical analysis of paraffin-embedded rat testis tissue labeling Rad50 with **ab208019** at 1/4000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Nuclear staining in rat testis is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat-mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab208019**).



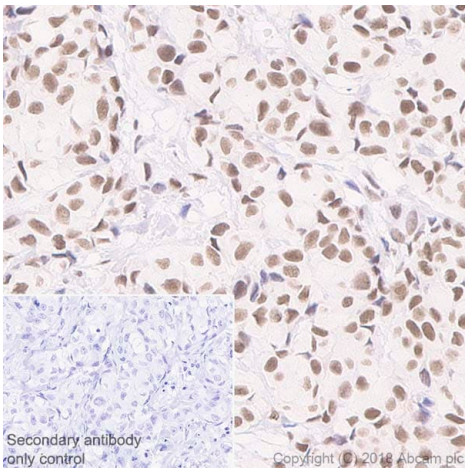
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad50 antibody [EPR20968] - BSA and Azide free (ab236460)

Immunohistochemical analysis of paraffin-embedded mouse testis tissue labeling Rad50 with **ab208019** at 1/4000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Nuclear staining in mouse testis (PMID: 10908350) is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat-mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab208019**).



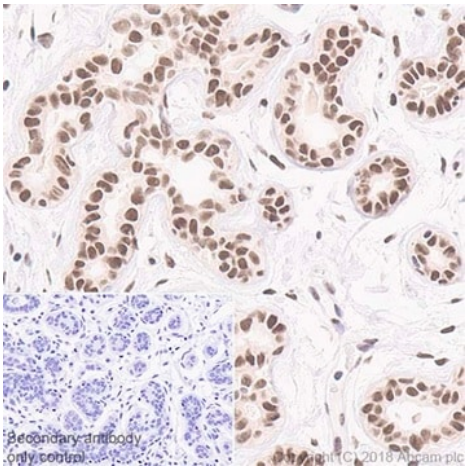
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad50 antibody [EPR20968] - BSA and Azide free (ab236460)

Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue labeling Rad50 with **ab208019** at 1/4000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Nuclear staining in human breast carcinoma (PMID: 24642965) is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat-mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab208019**).



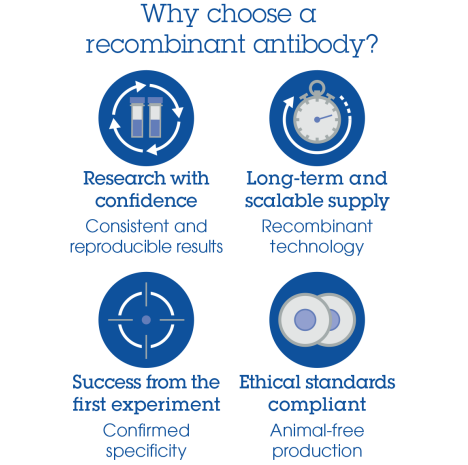
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad50 antibody [EPR20968] - BSA and Azide free (ab236460)

Immunohistochemical analysis of paraffin-embedded human breast tissue labeling Rad50 with **ab208019** at 1/4000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Nuclear staining in human breast tissue (PMID: 15509680) is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat-mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab208019**).



Anti-Rad50 antibody [EPR20968] - BSA and Azide free (ab236460)

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