abcam

Product datasheet

Anti-Rad51 (phospho T309) antibody ab111568

3 References 1 Image

Overview

Product name	Anti-Rad51 (phospho T309) antibody
Description	Rabbit polyclonal to Rad51 (phospho T309)
Host species	Rabbit
Tested applications	**Suitable for:** IHC-P
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse
Immunogen	Synthetic peptide corresponding to Human Rad51 (phospho T309).
Positive control	Human breast carcinoma tissue.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	pH: 7 Preservative: 0.02% Sodium azide Constituents: 49% PBS, 50% Glycerol (glycerin, glycerine), 0.88% Sodium chloride
Purity	Immunogen affinity purified
Purification notes	ab111568 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab111568 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		1/50 - 1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

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.

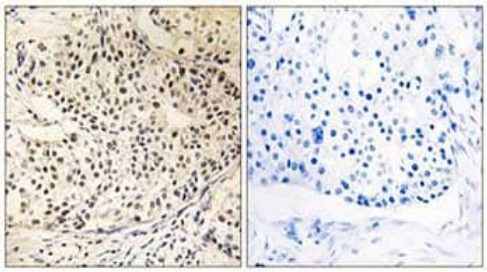
Sequence similarities Belongs to the RecA family. RAD51 subfamily.
Contains 1 HhH domain.

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



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad51 (phospho T309) antibody (ab111568)

ab111568, at 1/50 dilution, staining Rad51 in paraffin-embedded Human breast carcinoma tissue by Immunohistochemistry, in the presence (right panel) or absence (left panel) of immunising peptide.

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