

Product datasheet

Anti-Rad21 antibody [52A311] ab153765

3 Images

Overview

|                            |   |
|----------------------------|---|
| <b>Product name</b>        | Anti-Rad21 antibody [52A311]  |
| <b>Description</b>         | Mouse monoclonal [52A311] to Rad21  |
| <b>Host species</b>        | Mouse   |
| <b>Tested applications</b> | <b>Suitable for:</b> IHC-P, WB  |
| <b>Species reactivity</b>  | <b>Reacts with:</b> Human   |
| <b>Immunogen</b>           | Synthetic peptide (proprietary-tag) corresponding to Human Rad21 aa 250-650.  |
| <b>Positive control</b>    | IHC-P: human breast fibroadenoma FFPE tissue sections   |
| <b>General notes</b>       | <p>This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact <a href="mailto:orders@abcam.com">orders@abcam.com</a>.</p> <p>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.</p> <p>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&amp;As</p> |

Properties

|                             |   |
|-----------------------------|---|
| <b>Form</b>                 | Liquid  |
| <b>Storage instructions</b> | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C or -80°C. Avoid freeze / thaw cycle. |
| <b>Storage buffer</b>       | <p>pH: 7.40</p> <p>Preservative: 0.02% Sodium azide</p> <p>Constituents: PBS, 6.97% L-Arginine</p>        |
| <b>Purity</b>               | Protein G purified  |
| <b>Clonality</b>            | Monoclonal  |
| <b>Clone number</b>         | 52A311  |
| <b>Isotype</b>              | IgG1  |
| <b>Light chain type</b>     | kappa   |

## Applications

**The Abpromise guarantee** Our [Abpromise guarantee](#) covers the use of ab153765 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 a concentration of 5 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. |
| WB          |           | Use a concentration of 1 µg/ml. Detects a band of approximately 72 kDa (predicted molecular weight: 72 kDa).                                   |

## Target

### Function

Cleavable component of the cohesin complex, involved in chromosome cohesion during cell cycle, in DNA repair, and in apoptosis. The cohesin complex is required for the cohesion of sister chromatids after DNA replication. The cohesin complex apparently forms a large proteinaceous ring within which sister chromatids can be trapped. At metaphase-anaphase transition, this protein is cleaved by separase/ESPL1 and dissociates from chromatin, allowing sister chromatids to segregate. The cohesin complex may also play a role in spindle pole assembly during mitosis. Also plays a role in apoptosis, via its cleavage by caspase-3/CASP3 or caspase-7/CASP7 during early steps of apoptosis: the C-terminal 64 kDa cleavage product may act as a nuclear signal to initiate cytoplasmic events involved in the apoptotic pathway.

### Sequence similarities

Belongs to the rad21 family.

### Domain

The C-terminal part associates with the head of SMC1A, while the N-terminal part binds to the head of SMC3.

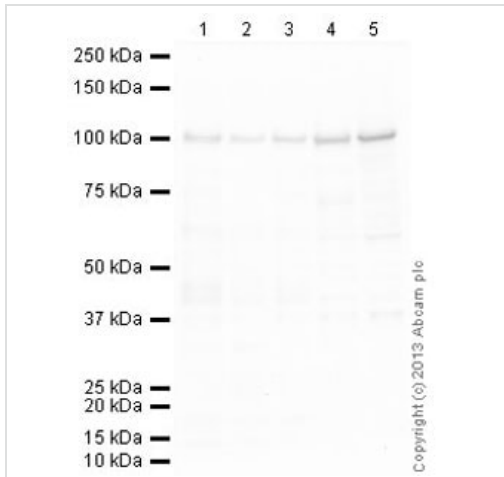
### Post-translational modifications

Cleaved by separase/ESPL1 at the onset of anaphase. Cleaved by caspase-3 and caspase-7 at the beginning of apoptosis. The cleavage by ESPL1 and caspase-3 take place at different sites. Phosphorylated; becomes hyperphosphorylated in M phase of cell cycle. The large dissociation of cohesin from chromosome arms during prophase may be partly due to its phosphorylation by PLK.

### Cellular localization

Nucleus. Chromosome. Chromosome > centromere. Associates with chromatin. Before prophase it is scattered along chromosome arms. During prophase, most of cohesin complexes dissociate from chromatin probably because of phosphorylation by PLK, except at centromeres, where cohesin complexes remain. At anaphase, it is cleaved by separase/ESPL1, leading to the dissociation of the complex from chromosomes, allowing chromosome separation. Once cleaved by caspase-3, the C-terminal 64 kDa cleavage product translocates to the cytoplasm, where it may trigger apoptosis.

## Images



Western blot - Anti-Rad21 antibody [52A311]  
(ab153765)

**All lanes :** Anti-Rad21 antibody [52A311] (ab153765) at 1 µg/ml

**Lane 1 :** MOLT4 (Human acute lymphoblastic leukemia cell line)  
Whole Cell Lysate

**Lane 2 :** K562 (Human erythromyeloblastoid leukemia cell line)  
Whole Cell Lysate

**Lane 3 :** Jurkat (Human T cell lymphoblast-like cell line) Whole Cell  
Lysate

**Lane 4 :** K562 (Human erythromyeloblastoid leukemia cell line)  
Nuclear Extract

**Lane 5 :** Jurkat nuclear extract lysate ([ab14844](#))

Lysates/proteins at 20 µg per lane.

### Secondary

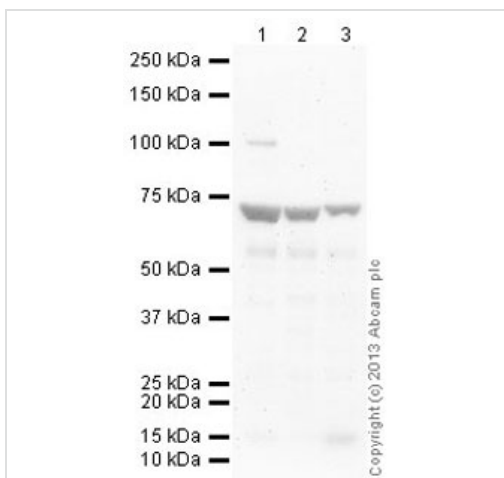
**All lanes :** Goat polyclonal Secondary Antibody to Mouse IgG -  
H&L (HRP), pre-adsorbed at 1/10000 dilution

Performed under reducing conditions.

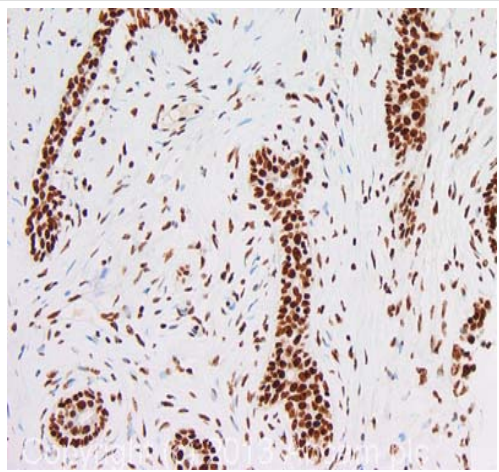
**Predicted band size:** 72 kDa

**Additional bands at:** 100 kDa. We are unsure as to the identity of  
these extra bands.

**Exposure time:** 12 minutes



Western blot - Anti-Rad21 antibody [52A311]  
(ab153765)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad21 antibody [52A311] (ab153765)

IHC image of Rad21 staining in human breast fibroadenoma formalin fixed paraffin embedded tissue section, performed on a Leica Bond system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab153765, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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

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