

## Product datasheet

### Anti-Rad50 antibody [EPR3466(2)] ab124682

Recombinant RabMAb

★★★★★ [5 Abreviews](#) [7 References](#) [5 Images](#)

#### Overview

Product name	Anti-Rad50 antibody [EPR3466(2)]
Description	Rabbit monoclonal [EPR3466(2)] to Rad50
Host species	Rabbit
Tested applications	<b>Suitable for:</b> WB <b>Unsuitable for:</b> Flow Cyt (Intra) or ICC/IF
Species reactivity	<b>Reacts with:</b> Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	K562, MOLT4, Jurkat and MCF7 cell lysates.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> For more information <a href="#">see here</a> . Our RabMAb <sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a> .

#### Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle. Stable for 12 months at -20°C.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 40% Glycerol (glycerin, glycerine), 0.05% BSA, 59% PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR3466(2)
Isotype	IgG

## Applications

### The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab124682 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	★★★★★ (2)	1/1000 - 1/10000. Detects a band of approximately 150 kDa (predicted molecular weight: 154 kDa).

### Application notes

Is unsuitable for Flow Cyt (Intra) or ICC/IF.

## 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.

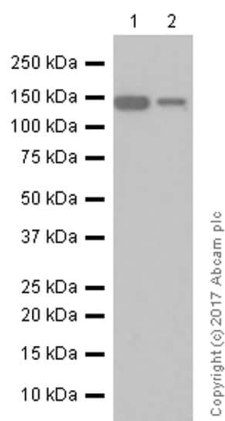
### Post-translational modifications

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



Western blot - Anti-Rad50 antibody [EPR3466(2)]  
(ab124682)

**All lanes :** Anti-Rad50 antibody [EPR3466(2)] (ab124682) at 1/5000 dilution (purified)

**Lane 1 :** K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysates

**Lane 2 :** MOLT-4 (Human lymphoblastic leukemia T lymphoblast) whole cell lysates

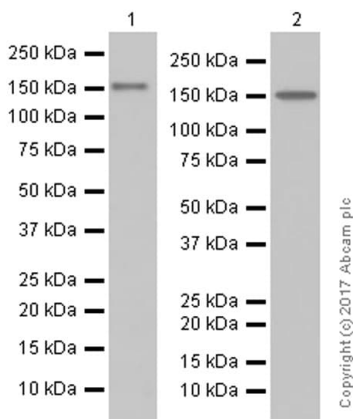
Lysates/proteins at 20 µg per lane.

#### Secondary

**All lanes :** Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

**Predicted band size:** 154 kDa

Blocking and diluting buffer: 5% NFDM/TBST



Western blot - Anti-Rad50 antibody [EPR3466(2)]  
(ab124682)

**All lanes :** Anti-Rad50 antibody [EPR3466(2)] (ab124682) at 1/1000 dilution (purified)

**Lane 1 :** Human fetal brain lysates

**Lane 2 :** Mouse thymus lysates

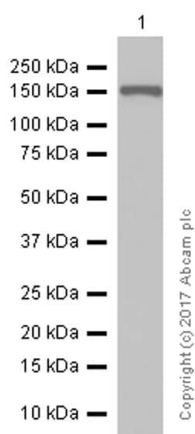
Lysates/proteins at 20 µg per lane.

#### Secondary

**All lanes :** Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

**Predicted band size:** 154 kDa

Blocking and diluting buffer: 5% NFDM/TBST



Western blot - Anti-Rad50 antibody [EPR3466(2)]  
(ab124682)

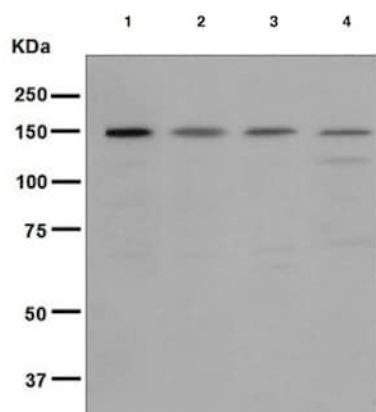
Anti-Rad50 antibody [EPR3466(2)] (ab124682) at 1/1000 dilution  
(purified) + Rat testis lysates at 20 µg

### Secondary

Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

**Predicted band size:** 154 kDa

Blocking and diluting buffer: 5% NFDM/TBST



Western blot - Anti-Rad50 antibody [EPR3466(2)]  
(ab124682)

**All lanes :** Anti-Rad50 antibody [EPR3466(2)] (ab124682) at  
1/1000 dilution (unpurified)

**Lane 1 :** K562 cell lysate

**Lane 2 :** MOLT4 cell lysate

**Lane 3 :** Jurkat cell lysate

**Lane 4 :** MCF7 cell lysate

Lysates/proteins at 10 µg per lane.




### Secondary

**All lanes :** Goat anti-Rabbit HRP at 1/2000 dilution

**Predicted band size:** 154 kDa

**Observed band size:** 150 kDa

Why choose a recombinant antibody?

 <p><b>Research with confidence</b> Consistent and reproducible results</p>	 <p><b>Long-term and scalable supply</b> Recombinant technology</p>
 <p><b>Success from the first experiment</b> Confirmed specificity</p>	 <p><b>Ethical standards compliant</b> Animal-free production</p>

Anti-Rad50 antibody [EPR3466(2)] (ab124682)

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

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