




Anti-Rad51 antibody ab176458

★★★★★ [4 Abreviews](#) [21 References](#) [5 图像](#)

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| 概述    |  |
| 产品名称  | Anti-Rad51抗体   |
| 描述    | 兔多克隆抗体to Rad51   |
| 宿主    | Rabbit   |
| 经测试应用 | 适用于: WB, IP, ICC/IF, IHC-P   |
| 种属反应性 | 与反应: Mouse, Human, Xenopus laevis, Chinese hamster<br>预测可用于: Rabbit, Cow, Dog   |
| 免疫原   | <p>Recombinant full length protein corresponding to Human Rad51 aa 1-339.</p> <p>Sequence:</p> <p>MAMQMQLLEANADTSVEEESFGPQPISRLEQCGINANDVKKLE<br/>EAGFHTVE<br/>AVAYAPKKELINIKGISEAKADKILAEAAKLVPMGFTTATEF<br/>HQRRSEII<br/>QITTGSKELDKLLQGGIETGSITEMFGEFRTGKTQICHTLAV<br/>TCQLPIDR<br/>GGGEGKAMYIDTEGTRPERLLAVAERYGLSGSDVLDNVAYA<br/>RAFNTDHQ<br/>TQLLYQASAMMVESRYALLIVDSATALYRTDYSRGELSARQ<br/>MHLARFLR<br/>MLLRLADEFGVAVVITNQVVAQVDGAAMFAADPKKPIGGNII<br/>AHASTTRL<br/>YLRKGRGETRICKIYDSPCLPEAEAMFAINADGVGDAKD</p> <p>Database link: <a href="#">Q06609</a></p> <p> <a href="#">Run BLAST with</a>  <a href="#">Run BLAST with</a></p> |
| 阳性对照  | WB: MCF7, CHO, NIH3T3 and Xenopus laevis eggs cell lysates   |
| 常规说明  | <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>  |

|             |   |
|-------------|---|
| <b>性能</b>   |   |
| <b>形式</b>   | Liquid  |
| <b>存放说明</b> | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle. |
| <b>存储溶液</b> | pH: 6.00<br>Constituents: 50% Glycerol (glycerin, glycerine), 50% PBS<br><br>Azide and carrier free.                              |
| <b>纯度</b>   | Immunogen affinity purified   |
| <b>克隆</b>   | 多克隆   |
| <b>同种型</b>  | IgG   |
| <b>应用</b>   |   |

The Abpromise guarantee

**Abpromise™**承诺保证使用ab176458于以下的经测试应用

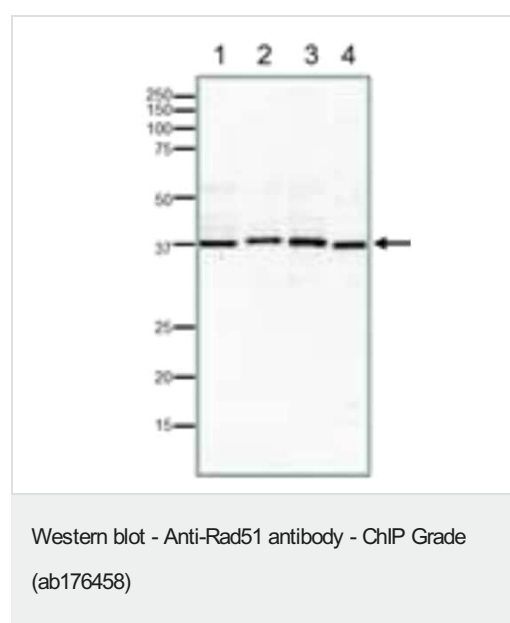
“应用说明”部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

| 应用     | Ab评论      | 说明  |
|--------|-----------|---|
| WB     | ★★★★★ (3) | 1/1000 - 1/10000. Predicted molecular weight: 36 kDa. |
| IP     |           | 1/100 - 1/1000.                                       |
| ICC/IF |           | 1/1000 - 1/10000.                                     |
| IHC-P  |           | Use at an assay dependent concentration.              |

|              |  |
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| <b>靶标</b>    |  |
| <b>功能</b>    | 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. |
| <b>组织特异性</b> | Highly expressed in testis and thymus, followed by small intestine, placenta, colon, pancreas and ovary. Weakly expressed in breast.   |
| <b>疾病相关</b>  | Breast cancer<br>Mirror movements 2<br>Defects in RAD51 are found in a patient with microcephaly, mental retardation without bone marrow failure and pediatric cancers.  |
| <b>序列相似性</b> | Belongs to the RecA family. RAD51 subfamily.   |

|              |  |
|--------------|--|
| <b>结构域</b>   | Contains 1 HhH domain.   |
| <b>翻译后修饰</b> | <p>The nuclear localization may reside in the C-terminus (between 259 and 339 AA).</p> <p>Ubiquitinated by the SCF(FBXO18) E3 ubiquitin ligase complex, regulating RAD51 subcellular location and preventing its association with DNA.</p> <p>Phosphorylated. Phosphorylation of Thr-309 by CHEK1 may enhance association with chromatin at sites of DNA damage and promote DNA repair by homologous recombination.</p> <p>Phosphorylation by ABL1 inhibits function.</p>                                      |
| <b>细胞定位</b>  | <p>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.</p> |

## 图片



**All lanes :** Anti-Rad51 antibody (ab176458) at 1/1000 dilution

**Lane 1 :** MCF7 (human breast adenocarcinoma cell line) cell lysate

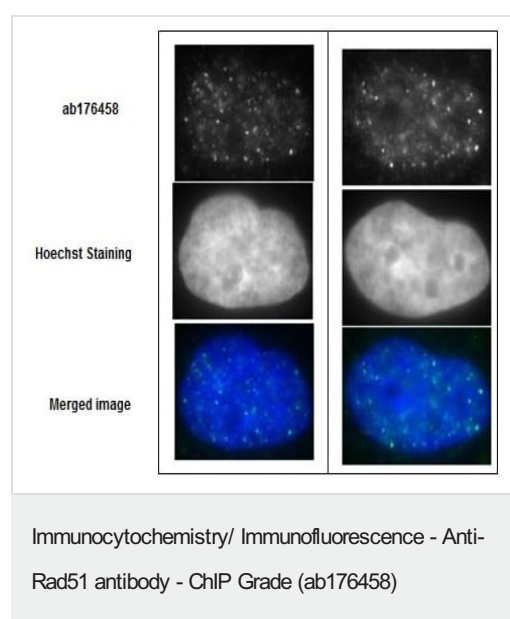
**Lane 2 :** NIH3T3 (Mouse embryo fibroblast cell line) cell lysate

**Lane 3 :** CHO (Chinese hamster ovary cell line) cell lysate

**Lane 4 :** Xenopus laevis egg

Lysates/proteins at 40 µg per lane.

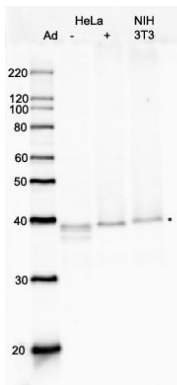
**Predicted band size:** 36 kDa



Immunofluorescence detection of Rad51 foci formation after X-ray irradiation in GM0637 cells with ab176458 at 1/10000 dilution (left panels) and 1/1000 dilution (right panels). The secondary antibody, anti-rabbit Alexa 488 was used at 1/10000 dilution.

Cells were irradiated by X-rays at 2 Gy, grown for 1 hr, fixed with 4% paraformaldehyde in 1x PBS for 10 min, washed 3 times with PBS for 3 min, permeabilized by treatment with 0.5% Triton for 5 min, washed 3 times with PBS for 3 min, incubated with ab176458 for 30 min at 37°C, washed 3 times with PBS for 3 min, incubated with secondary antibody for 30 min at 37°C, washed 3 times with PBS for 3 min, stained with Hoechst for 1 min and mounted.

The pictures were by courtesy of Prof. S. Tashiro and Dr. K. Kono at Hiroshima University.



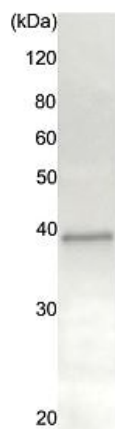
Western blot - Anti-Rad51 antibody - ChIP Grade (ab176458)

Anti-Rad51 antibody (ab176458) at 1/1000 dilution + Crude HeLa cell extracts at 10  $\mu$ g

### Secondary

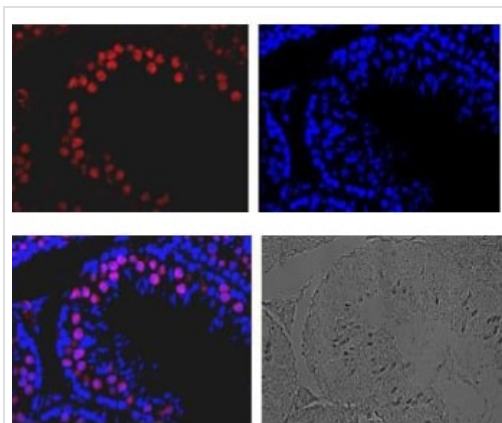
Goat anti-Rabbit IgG conjugated to HRP at 1/20000 dilution

**Predicted band size: 36 kDa**



Immunoprecipitation - Anti-Rad51 antibody - ChIP Grade (ab176458)

ab176458 (20  $\mu$ g) was incubated with 20  $\mu$ g of HeLa cell extract, and precipitated with 20  $\mu$ g of proteinA-beads. The sample was dissociated from the precipitate by heating in SDS-sample buffer and analyzed by western blotting with anti-Rad51 antiserum (chicken, [ab63802](#)) at 1/1000 dilution. As secondary antibody, anti-chicken IgG antibody (rabbit) was used at 1/10000 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rad51 antibody - ChIP Grade (ab176458)

Immunohistological staining of Rad51 protein in mouse testis using ab176458. A section of formalin fixed and paraffin embedded mouse testis was treated with ab176458 at 1/100 dilution after deparaffization and antigen retrieval. The secondary antibody, Alexa Fluor® 647 conjugated anti-rabbit IgG was used at 1/1,000 dilution (top left). The sample was counter-stained with DAPI (top right) and the merged image is shown (bottom left). The white light image of the same region is shown on the bottom right.

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