

## Product datasheet

### Anti-Ku80 antibody [EPR3468] ab80592

Recombinant **RabMAb**

[39 References](#) [7 Images](#)

#### Overview

|                            |   |
|----------------------------|---|
| <b>Product name</b>        | Anti-Ku80 antibody [EPR3468]  |
| <b>Description</b>         | Rabbit monoclonal [EPR3468] to Ku80   |
| <b>Host species</b>        | Rabbit  |
| <b>Tested applications</b> | <b>Suitable for:</b> Flow Cyt (Intra), WB, IP, IHC-P, ICC/IF  |
| <b>Species reactivity</b>  | <b>Reacts with:</b> Mouse, Rat, Human   |
| <b>Immunogen</b>           | Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.   |
| <b>Positive control</b>    | WB: lysates from A549, HeLa, HepG2 and MCF7 cells; IHC-P: Human tonsil tissue; ICC/IF: HeLa cells. Flow Cyt (intra): HeLa cells. IP: HeLa cells.  |
| <b>General notes</b>       | <p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <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> <p>For more information <a href="#">see here</a>.</p> <p>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>.</p> |

#### Properties

|                             |  |
|-----------------------------|--|
| <b>Form</b>                 | Liquid   |
| <b>Storage instructions</b> | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Stable for 12 months at -20°C.        |
| <b>Storage buffer</b>       | <p>pH: 7.20</p> <p>Preservative: 0.01% Sodium azide</p> <p>Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.5% BSA</p> |
| <b>Purity</b>               | Protein A purified   |
| <b>Clonality</b>            | Monoclonal   |
| <b>Clone number</b>         | EPR3468  |
| <b>Isotype</b>              | IgG  |

## Applications

### The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab80592 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   |
|------------------|-----------|---|
| Flow Cyt (Intra) |           | 1/20.   |
| WB               |           | 1/1000 - 1/10000. Predicted molecular weight: 83 kDa.   |
| IP               |           | 1/50.   |
| IHC-P            |           | 1/250 - 1/500. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat. |
| ICC/IF           |           | 1/500 - 1/1000.   |

## Target

### Function

Single stranded DNA-dependent ATP-dependent helicase. Has a role in chromosome translocation. The DNA helicase II complex binds preferentially to fork-like ends of double-stranded DNA in a cell cycle-dependent manner. It works in the 3'-5' direction. Binding to DNA may be mediated by XRCC6. Involved in DNA non-homologous end joining (NHEJ) required for double-strand break repair and V(D)J recombination. The XRCC5/6 dimer acts as regulatory subunit of the DNA-dependent protein kinase complex DNA-PK by increasing the affinity of the catalytic subunit PRKDC to DNA by 100-fold. The XRCC5/6 dimer is probably involved in stabilizing broken DNA ends and bringing them together. The assembly of the DNA-PK complex to DNA ends is required for the NHEJ ligation step. In association with NAA15, the XRCC5/6 dimer binds to the osteocalcin promoter and activates osteocalcin expression. The XRCC5/6 dimer probably also acts as a 5'-deoxyribose-5-phosphate lyase (5'-dRP lyase), by catalyzing the beta-elimination of the 5' deoxyribose-5-phosphate at an abasic site near double-strand breaks. XRCC5 probably acts as the catalytic subunit of 5'-dRP activity, and allows to 'clean' the termini of abasic sites, a class of nucleotide damage commonly associated with strand breaks, before such broken ends can be joined. The XRCC5/6 dimer together with APEX1 acts as a negative regulator of transcription.

### Sequence similarities

Belongs to the ku80 family.  
Contains 1 Ku domain.

### Developmental stage

Expression increases during promyelocyte differentiation.

### Domain

The EEXXXDDL motif is required for the interaction with catalytic subunit PRKDC and its recruitment to sites of DNA damage.

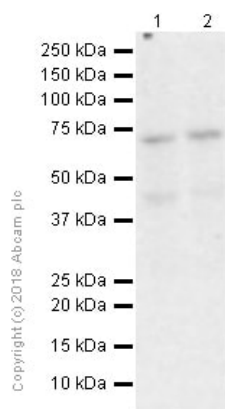
### Post-translational modifications

Phosphorylated on serine residues. Phosphorylation by PRKDC may enhance helicase activity. Sumoylated.

### Cellular localization

Nucleus. Chromosome.

## Images



Western blot - Anti-Ku80 antibody [EPR3468]  
(ab80592)

**All lanes** : Anti-Ku80 antibody [EPR3468] (ab80592) at 1/3000 dilution

**Lane 1** : PC-12(Rat adrenal gland pheochromocytoma) whole cell lysate

**Lane 2** : NIH/3T3(Mouse embryonic fibroblast) whole cell lysate

Lysates/proteins at 20 µg per lane.

### Secondary

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

**Predicted band size:** 83 kDa

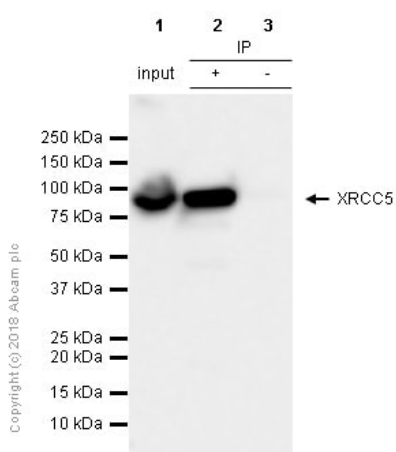
**Observed band size:** 83 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ku80 antibody [EPR3468] (ab80592)

Immunohistochemistry analysis of paraffin-embedded Human tonsil tissue using 1/100 ab80592.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-Ku80 antibody [EPR3468] (ab80592)

ab80592 (purified) at 1/50 dilution (20 µg/mL) immunoprecipitating Ku80 in HeLa whole cell lysate.

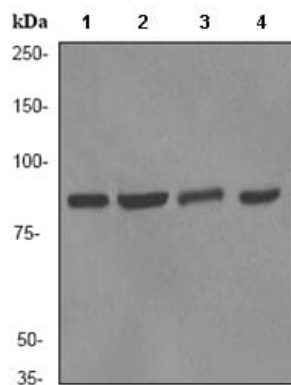
Lane 1 (input): HeLa(Human cervix adenocarcinoma epithelial cell) whole cell lysate 10µg

Lane 2 (+): ab80592 & HeLa whole cell lysate

Lane 3 (-): Rabbit monoclonal IgG ([ab172730](#)) instead of ab80592 in HeLa whole cell lysate

For western blotting, ab80592 at 1/500 dilution (1.86 µg/mL) and VeriBlot for IP Detection Reagent (HRP) ([ab131366](#)) was used for detection at 1/1000 dilution.

Blocking and diluting buffer: 5% NFDM /TBST .



Western blot - Anti-Ku80 antibody [EPR3468]  
(ab80592)

**All lanes :** Anti-Ku80 antibody [EPR3468] (ab80592) at 1/50000 dilution

**Lane 1 :** A549 cell lysate

**Lane 2 :** HeLa cell lysate

**Lane 3 :** HepG2 cell lysate

**Lane 4 :** MCF7 cell lysate

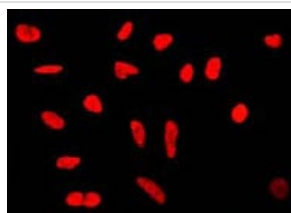
Lysates/proteins at 10 µg per lane.

### Secondary

**All lanes :** goat anti-rabbit HRP at 1/2000 dilution

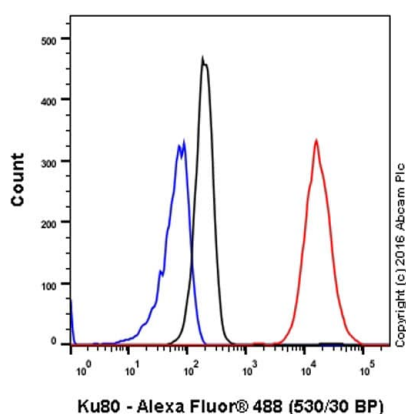
**Predicted band size:** 83 kDa

**Observed band size:** 83 kDa



Immunocytochemistry/ Immunofluorescence - Anti-Ku80 antibody [EPR3468] (ab80592)

Immunofluorescence analysis of HeLa cells with 1/500 ab80592.



Flow Cytometry (Intracellular) - Anti-Ku80 antibody  
[EPR3468] (ab80592)

Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling Ku80 with unpurified ab80592 at 1/20 dilution (10ug/mL) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-Ku80 antibody [EPR3468] (ab80592)

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

### Our Abpromise to you: Quality guaranteed and expert technical support

---

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

### Terms and conditions

---

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors