abcam

Product datasheet

Anti-Ku80 antibody [EPR3468] ab80592

Recombinant RabMAb

19 References 6 Images

Overview

Product name	Anti-Ku80 antibody [EPR3468]
Description	Rabbit monoclonal [EPR3468] to Ku80
Host species	Rabbit
Tested applications	**Suitable for:** WB, IP, IHC-P, ICC/IF, Flow Cyt
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide within Human Ku80 aa 700 to the C-terminus. The exact sequence is proprietary. Database link: P13010
Positive control	WB: lysates from A549, HeLa, HepG2 and MCF7 cells; IHC-P: Human tonsil tissue; ICC/IF: HeLa cells. Flow Cyt: HeLa cells. IP: HeLa cells.
General notes	Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information. This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information see here. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents. **We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.**

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.

	Stable for 12 months at -20°C.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.5% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR3468
Isotype	IgG

Applications

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.

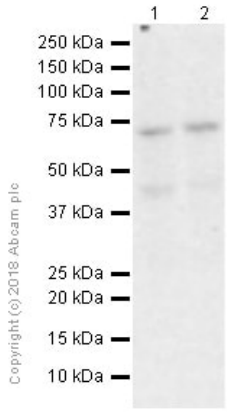
Application	Abreviews	Notes
WB		1/1000 - 1/10000. Predicted molecular weight: 83 kDa.
IP		1/50.
IHC-P		1/250 - 1/500. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ICC/IF		1/500 - 1/1000.
Flow Cyt		1/20.

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)

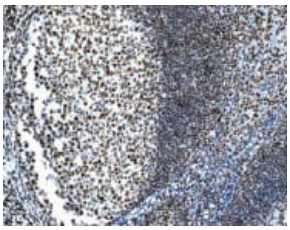
All lanes : Anti-Ku80 antibody [EPR3468] (ab80592) at 1/3000 dilution

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

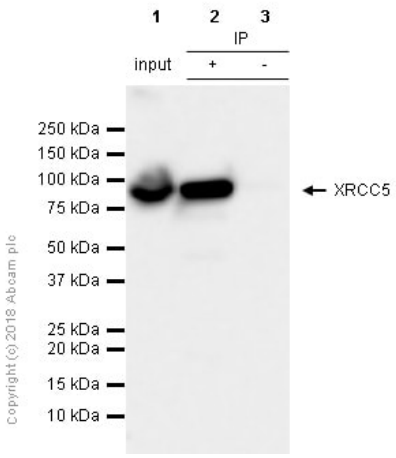
Predicted band size: 83 kDa
Observed band size: 83 kDa



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.

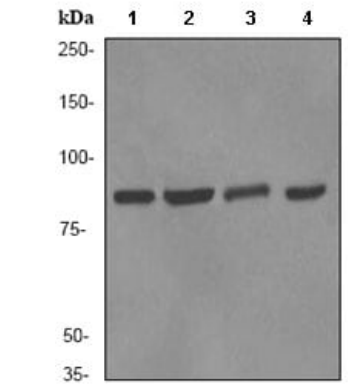
Lane 1 (input): HeLa(Human cervix adenocarcinoma epithelial cell) whole cell lysate 10µg

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

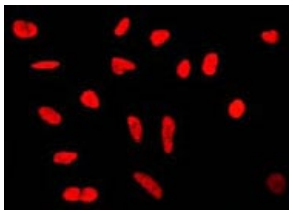
Lysates/proteins at 10 µg per lane.

Secondary

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

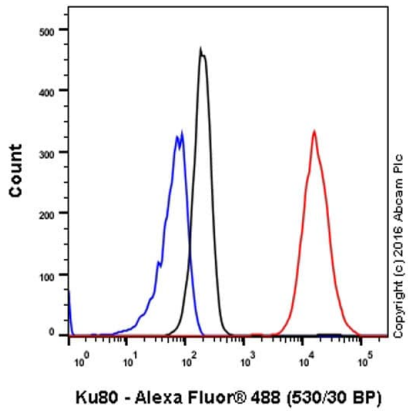
Predicted band size: 83 kDa

Observed band size: 83 kDa



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

Immunofluorescence analysis of HeLa cells with 1/500 ab80592.



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

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.

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