abcam

Product datasheet

Anti-Ku80 antibody [EPR3467] ab79391

Recombinant RabMAb

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Overview

Product name	Anti-Ku80 antibody [EPR3467]
Description	Rabbit monoclonal [EPR3467] to Ku80
Host species	Rabbit
Specificity	The immunogen for ab79391 has 78.6% homology with mouse and rat ku80, therefore we do not guarantee reactivity in these species.
Tested applications	**Suitable for:** Flow Cyt (Intra), WB, IHC-P **Unsuitable for:** IP
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide within Human Ku80 aa 50-150. The exact sequence is proprietary.
Positive control	A549 (treated with FBS), HeLa, U937 and HepG2 cell lysates; human breast carcinoma tissue.
General notes	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**. Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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: 0.05% Sodium azide Constituents: 0.1% BSA, 40% Glycerol (glycerin, glycerine), 9.85% Tris glycine, 50% Tissue culture supernatant

Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR3467
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab79391 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)		1/150. **ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
WB		1/500 - 1/2000. Detects a band of approximately 83 kDa (predicted molecular weight: 83 kDa).
IHC-P	★★★★★ (1)	1/250 - 1/500. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

Application notes Is unsuitable for IP.

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.

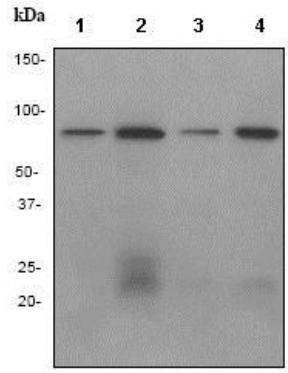
Developmental stage Expression increases during promyelocyte differentiation.

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

Post-translational Phosphorylated on serine residues. Phosphorylation by PRKDC may enhance helicase activity.

modifications	Sumoylated.
Cellular localization	Nucleus. Chromosome.

Images



Western blot - Anti-Ku80 antibody [EPR3467] (ab79391)

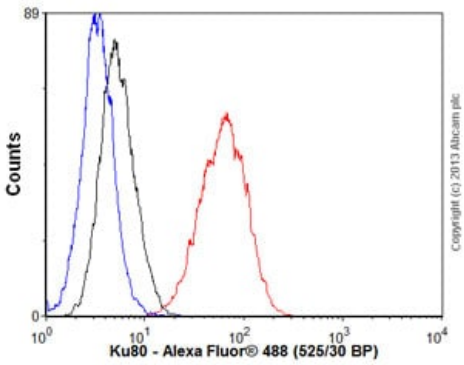
All lanes : Anti-Ku80 antibody [EPR3467] (ab79391) at 1/2000 dilution

Lane 1 : A549 cell lysate, treated with FBS
Lane 2 : HeLa cell lysate
Lane 3 : U937 (Human histiocytic lymphoma cell line) cell lysate
Lane 4 : HepG2 cell lysate

Lysates/proteins at 10 µg per lane.

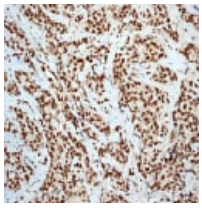
Secondary
All lanes : goat anti-rabbit HRP at 1/2000 dilution

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



Flow Cytometry (Intracellular) - Anti-Ku80 antibody [EPR3467] (ab79391)

Overlay histogram showing HeLa cells stained with ab79391 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab79391, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) (**ab150077**) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ku80 antibody [EPR3467] (ab79391)

ab79391 at 1/250 dilution staining Ku80 in human breast carcinoma by Immunohistochemistry, Paraffin-embedded tissue.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

Anti-Ku80 antibody [EPR3467] (ab79391)

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