**Product datasheet**

**Anti-Ku80 antibody [5C5] ab119935**

| ★★★★★ | 6 Abreviews | 5 References | 6 Images |

**Overview**

**Product name**
Anti-Ku80 antibody [5C5]

**Description**
Mouse monoclonal [5C5] to Ku80

**Host species**
Mouse

**Tested applications**
Suitable for: WB, ELISA, IHC-P, Flow Cyt, ICC/IF

**Species reactivity**
Reacts with: Mouse, Human

**Immunogen**
Recombinant fragment, corresponding to amino acids 61-340 of Human Ku80

**Positive control**
HeLa, MCF7, A549 and NIH3T3 cell lysates, Human tonsil and Human colon cancer tissues, Hela cells, recombinant Ku80 protein

**General notes**
This product was changed from ascites to supernatant. Lot no’s high than GR133722-19 are from Tissue Culture Supernatant

**Properties**

**Form**
Liquid

**Storage instructions**
Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C long term.

**Storage buffer**
Preservative: 0.05% Sodium azide
Constituent: PBS

**Purity**
Protein G purified

**Purification notes**
Purified from tissue culture supernatant.

**Clonality**
Monoclonal

**Clone number**
5C5

**Isotype**
IgG1

**Applications**

Our Abpromise guarantee covers the use of ab119935 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
**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.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/500 - 1/2000. Detects a band of approximately 86 kDa (predicted molecular weight: 83 kDa).</td>
</tr>
<tr>
<td>ELISA</td>
<td></td>
<td>1/10000.</td>
</tr>
<tr>
<td>IHC-P</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/200 - 1/1000.</td>
</tr>
<tr>
<td>Flow Cyt</td>
<td></td>
<td>1/200 - 1/400.</td>
</tr>
<tr>
<td></td>
<td>ab170190</td>
<td>Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/200 - 1/1000.</td>
</tr>
</tbody>
</table>

**Target**

**Images**
**Western blot - Anti-Ku80 antibody [5C5] (ab119935)**

*All lanes*: Anti-Ku80 antibody [5C5] (ab119935) at 1/500 dilution

*Lane 1*: HeLa cell lysate  
*Lane 2*: MCF7 cell lysate  
*Lane 3*: A549 cell lysate  
*Lane 4*: NIH3T3 cell lysate

**Predicted band size**: 83 kDa  
**Observed band size**: 85 kDa

*why is the actual band size different from the predicted?*

**Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ku80 antibody [5C5] (ab119935)**

Immunohistochemical analysis of paraffin-embedded Human tonsil tissues using ab119935 at a dilution of 1/200 with DAB staining.

**Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ku80 antibody [5C5] (ab119935)**

Immunohistochemical analysis of paraffin-embedded Human colon cancer tissue using ab119935 at a dilution of 1/200 with DAB staining.
Immunofluorescence analysis of Hela cells using ab119935 at a dilution of 1/200 (green). Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

Flow cytometric analysis of Hela cells using ab119935 at a dilution of 1/200 (green) and negative control (purple).

ELISA, using ab119935 at a dilution of 1/10000.

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