**Product datasheet**

**Anti-Ki67 antibody [EPR3610] (Alexa Fluor® 488) ab197234**

**Overview**

**Product name**
Anti-Ki67 antibody [EPR3610] (Alexa Fluor® 488)

**Description**
Rabbit monoclonal [EPR3610] to Ki67 (Alexa Fluor® 488)

**Host species**
Rabbit

**Conjugation**
Alexa Fluor® 488. Ex: 495nm, Em: 519nm

**Tested applications**
Suitable for: ICC/IF, Flow Cyt

**Species reactivity**
Reacts with: Human

Does not react with: Mouse, Rat

**Immunogen**
Synthetic peptide within Human Ki67 aa 1050-1150. The exact sequence is proprietary.

**Positive control**
ICC/IF: HeLa cells, HAP1 WT and HAP1-Ki67 KO. Flow Cyt: HeLa cells.

**General notes**

Alternative versions available:
**Anti-Ki67 antibody [EPR3610] (ab92742) - Knockout validated**

Our RabMab® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMab® patents.

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This product is a recombinant rabbit monoclonal antibody.
Form: Liquid


Storage buffer: pH: 7.4
Preservative: 0.02% Sodium azide
Constituents: PBS, 30% Glycerol, 1% BSA

Purity: Protein A purified

Clonality: Monoclonal

Clone number: EPR3610

Isotype: IgG

Function: Required to maintain individual mitotic chromosomes dispersed in the cytoplasm following nuclear envelope disassembly (PubMed:27362226). Associates with the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the chromosome surface (PubMed:27362226). Prevents chromosomes from collapsing into a single chromatin mass by forming a steric and electrostatic charge barrier: the protein has a high net electrical charge and acts as a surfactant, dispersing chromosomes and enabling independent chromosome motility (PubMed:27362226). Binds DNA, with a preference for supercoiled DNA and AT-rich DNA (PubMed:10878551). Does not contribute to the internal structure of mitotic chromosomes (By similarity). May play a role in chromatin organization (PubMed:24867636). It is however unclear whether it plays a direct role in chromatin organization or whether it is an indirect consequence of its function in maintaining mitotic chromosomes dispersed.

Sequence similarities: Contains 1 FHA domain.
Contains 16 K167R repeats.
Contains 1 PP1-binding domain.

Developmental stage: Expression occurs preferentially during late G1, S, G2 and M phases of the cell cycle, while in cells in G0 phase the antigen cannot be detected (at protein level) (PubMed:6206131). Present at highest level in G2 phase and during mitosis (at protein level). In interphase, forms fiber-like structures in fibrillarin-deficient regions surrounding nucleoli (PubMed:2674163, PubMed:8799815).

Applications

Our Abpromise guarantee covers the use of ab197234 in the following tested applications.

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

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<td>ICC/IF</td>
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<td>This product gave a positive signal in HeLa cells fixed with 4% formaldehyde (10 min) and 100% methanol (5 min).</td>
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Flow Cyt: 1/50.
**Post-translational modifications**


**Cellular localization**

Chromosome. Nucleus. Nucleus, nucleolus. Associates with the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the mitotic chromosome surface (PubMed:27362226). Associates with satellite DNA in G1 phase (PubMed:9510506). Binds tightly to chromatin in interphase, chromatin-binding decreases in mitosis when it associates with the surface of the condensed chromosomes (PubMed:15896774, PubMed:22002106). Predominantly localized in the G1 phase in the perinucleolar region, in the later phases it is also detected throughout the nuclear interior, being predominantly localized in the nuclear matrix (PubMed:22002106).

**Images**

ab197234 staining Ki67 in HeLa cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab197234 at a 1/100 dilution (shown in green) and ab195889, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 594), at a 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

This product also gave a positive signal under the same testing conditions in HeLa cells fixed with 100% methanol (5 min).

ab197234 staining Ki67 in wild-type HAP1 cells (top panel) and Ki67 knockout HAP1 cells (bottom panel). The cells were fixed with 100% methanol (5min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab197234 at 1/100 dilution (shown in green) and ab195889 at 1/250 dilution (shown in pseudo colour red) overnight at +4°C. Nuclear DNA was labelled in blue with DAPI.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).
Overlay histogram showing HeLa cells stained with ab197234 (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 (ab197234, 1/50 dilution) for 30 min at 22°C. Isotype control antibody (black line) was rabbit monoclonal IgG [EPR25A] Alexa Fluor® 488 (ab199091) used at the same concentration and conditions as the primary antibody. 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.

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

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