

Product datasheet

Anti-KAP1 antibody [EPR5217] ab109289

KO VALIDATED Recombinant RabMAb

[5 Images](#)

Overview

Product name	Anti-KAP1 antibody [EPR5217]
Description	Rabbit monoclonal [EPR5217] to KAP1
Host species	Rabbit
Tested applications	Suitable for: WB, IHC-P, ICC/IF Unsuitable for: Flow Cyt or IP
Species reactivity	Reacts with: Mouse, Human Predicted to work with: Rat
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> <p>Purchase matching WB positive control: Recombinant Human KAP1 protein ></p> </div> <p>A431, HeLa, PC-3, and F9 cell lysates, Human spleen tissue, HeLa cells</p>
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. 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	EPR5217
Isotype	IgG

Applications

The Abpromise guarantee Our [Abpromise guarantee](#) covers the use of ab109289 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. Detects a band of approximately 110 kDa (predicted molecular weight: 89 kDa).
IHC-P		1/250 - 1/500. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
ICC/IF		1/100 - 1/250.

Application notes Is unsuitable for Flow Cyt or IP.

Target

Function Nuclear corepressor for KRAB domain-containing zinc finger proteins (KRAB-ZFPs). Mediates gene silencing by recruiting CHD3, a subunit of the nucleosome remodeling and deacetylation (NuRD) complex, and SETDB1 (which specifically methylates histone H3 at 'Lys-9' (H3K9me)) to the promoter regions of KRAB target genes. Enhances transcriptional repression by coordinating the increase in H3K9me, the decrease in histone H3 'Lys-9 and 'Lys-14' acetylation (H3K9ac and H3K14ac, respectively) and the disposition of HP1 proteins to silence gene expression. Recruitment of SETDB1 induces heterochromatinization. May play a role as a coactivator for CEBPB and NR3C1 in the transcriptional activation of ORM1. Also corepressor for ERBB4. Inhibits E2F1 activity by stimulating E2F1-HDAC1 complex formation and inhibiting E2F1 acetylation. May serve as a partial backup to prevent E2F1-mediated apoptosis in the absence of RB1. Important regulator of CDKN1A/p21(CIP1). Has E3 SUMO-protein ligase activity toward itself via its PHD-type zinc finger.

Tissue specificity Expressed in all tissues tested including spleen, thymus, prostate, testis, ovary, small intestine, colon and peripheral blood leukocytes.

Pathway Protein modification; protein sumoylation.

Sequence similarities Belongs to the TRIM/RBCC family.
Contains 2 B box-type zinc fingers.
Contains 1 bromo domain.
Contains 1 PHD-type zinc finger.
Contains 1 RING-type zinc finger.

Domain The HP1 box is both necessary and sufficient for HP1 binding.
The PHD-type zinc finger enhances CEBPB transcriptional activity. The PHD-type zinc finger, the HP1 box and the bromo domain, function together to assemble the machinery required for repression of KRAB domain-containing proteins. Acts as an intramolecular SUMO E3 ligase for autSUMOylation of bromodomain.

The RING-finger-B Box-coiled-coil/tripartite motif (RBCC/TRIM motif) is required for interaction with the KRAB domain of KRAB-zinc finger proteins. Binds four zinc ions per molecule. The RING finger and the N-terminal of the leucine zipper alpha helical coiled-coil region of RBCC are required for oligomerization.

Contains one Pro-Xaa-Val-Xaa-Leu (PxVxL) motif, which is required for interaction with chromoshadow domains. This motif requires additional residues -7, -6, +4 and +5 of the central Val which contact the chromoshadow domain.

Post-translational modifications

Phosphorylated upon DNA damage, probably by ATM or ATR. ATM-induced phosphorylation on Ser-824 represses sumoylation leading to the de-repression of expression of a subset of genes involved in cell cycle control and apoptosis in response to genotoxic stress. Dephosphorylation by the phosphatases, PPP1CA and PP1CB forms, allows sumoylation and expression of TRIM28 target genes.

Sumoylation/desumoylation events regulate TRIM28-mediated transcriptional repression.

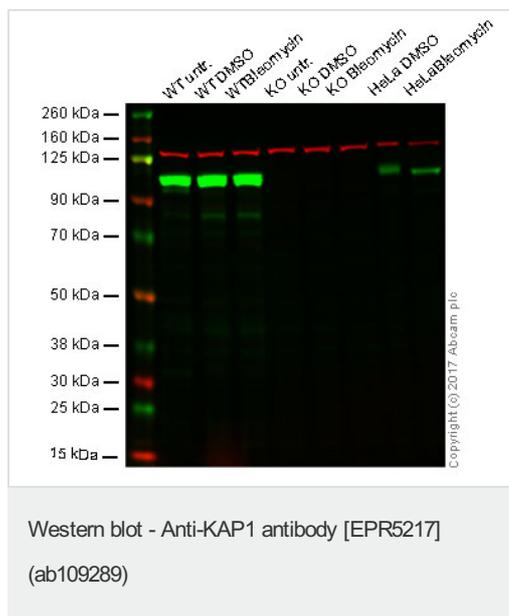
Sumoylation is required for interaction with CHD3 and SETDB1 and the corepressor activity.

Represses and is repressed by Ser-824 phosphorylation. Enhances the TRIM28 corepressor activity, inhibiting transcriptional activity of a number of genes including GADD45A and CDKN1A/p21. Lys-554, Lys-779 and Lys-804 are the major sites of sumoylation. In response to Dox-induced DNA damage, enhanced phosphorylation on Ser-824 prevents sumoylation and allows de-repression of CDKN1A/p21.

Cellular localization

Nucleus. Associated with centromeric heterochromatin during cell differentiation through CBX1.

Images



Lane 1: Wild type HAP1 whole cell lysate (20 µg)

Lane 2: Wild type HAP1 + DMSO whole cell lysate (20 µg)

Lane 3: Wild type HAP1 + Blaomycin whole cell lysate (20 µg)

Lane 4: TRIM28 knockout HAP1 whole cell lysate (20 µg)

Lane 5: TRIM28 knockout HAP1 + DMSO whole cell lysate (20 µg)

Lane 6: TRIM28 knockout HAP1 + Blaomycin whole cell lysate (20 µg)

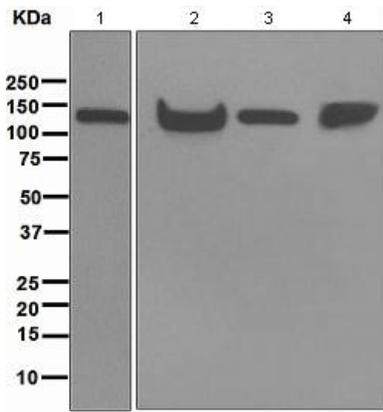
Lane 7: HeLa + DMSO whole cell lysate (20 µg)

Lane 8: HeLa + Blaomycin whole cell lysate (20 µg)

Lanes 1 - 8: Merged signal (red and green). Green - ab109289 observed at 110 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab109289 was shown to specifically react with KAP1 in wild type cells as signal was lost in KAP1 knockout cells. Wild-type and KAP1 knockout samples were subjected to SDS-PAGE.

Ab109289 and ab8245 (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-KAP1 antibody [EPR5217] (ab109289)

All lanes : Anti-KAP1 antibody [EPR5217] (ab109289) at 1/1000 dilution

Lane 1 : A431 cell lysate

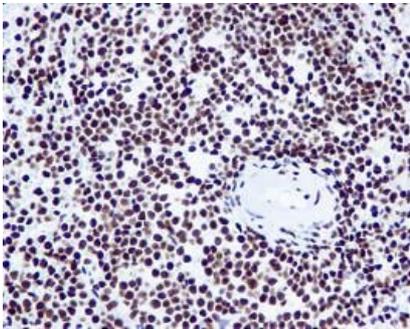
Lane 2 : HeLa cell lysate

Lane 3 : PC-3 cell lysate

Lane 4 : F9 cell lysate

Lysates/proteins at 10 µg per lane.

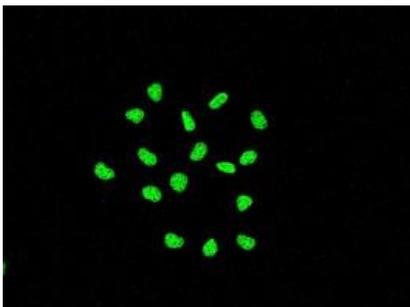
Predicted band size: 89 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KAP1 antibody [EPR5217] (ab109289)

Immunohistochemical analysis of paraffin-embedded Human spleen tissue using ab109289 at a dilution of 1/250.

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



Immunocytochemistry/ Immunofluorescence - Anti-KAP1 antibody [EPR5217] (ab109289)

Immunofluorescent staining of HeLa cells using ab109289 at a dilution of 1/100.

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-KAP1 antibody [EPR5217] (ab109289)

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

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