abcam

ab243870

Anti-KAP1 (phospho S824) antibody [BL-246-7B5]

Anti-KAP1 (phospho S824) antibody [BL-246-7B5] (ab243870) is a rabbit monoclonal antibody detecting KAP1 in **Western Blot, Flow Cytometry, IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse**.

- Recombinant format for unrivalled batch-batch consistency

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.8 - 8.6 Preservative: 0.09% Sodium azide Constituents: 98% Borate buffered saline, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human TRIM28 pS824. The exact immunogen used to generate this antibody is proprietary information. Database link Q13263
Clone number	BL-246-7B5
Purification technique	Affinity purification Protein A
Concentration	0.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Recombinant antibody was purified from cell culture supernatant.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	Permeabilization with Triton-X 100 is recommended for formaldehyde-fixed cells.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	Use 20µl/mg lysate.

Expected

Species	Mouse

Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1 µL for 10^6 Cells
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information TRIM28 pS824

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 a 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. Also specifically sumoylates IRF7, thereby inhibiting its transactivation activity. Ubiquitinates p53/TP53 leading to its proteasomal degradation; the function is enhanced by MAGEC2 and MAGEA2, and possibly MAGEA3 and MAGEA6. Mediates the nuclear localization of KOX1, ZNF268 and ZNF300 transcription factors. In association with isoform 2 of ZFP90, is required for the transcriptional repressor activity of FOXP3 and the suppressive function of regulatory T-cells (Treg) (PubMed:23543754). Probably forms a corepressor complex required for activated KRAS-mediated promoter hypermethylation and transcriptional silencing of tumor suppressor genes (TSGs) or other tumor-related genes in colorectal cancer (CRC) cells (PubMed:24623306). Required to maintain a transcriptionally repressive state of genes in undifferentiated embryonic stem cells (ESCs) (PubMed:24623306). In ESCs, in collaboration with SETDB1, is also required for H3K9me3 and silencing of endogenous and introduced retroviruses in a DNA-methylation independent-pathway (By similarity). Associates at promoter regions of tumor suppressor genes (TSGs) leading to their gene silencing (PubMed:24623306). The SETDB1-TRIM28-ZNF274 complex may play a role in recruiting ATRX to the 3'-exons of zinc-finger coding genes with atypical chromatin signatures to establish or maintain/protect H3K9me3 at these transcriptionally active regions (PubMed:27029610). (Microbial infection) Plays a critical role in the shutdown of lytic gene expression during the early stage of herpes virus 8 primary infection. This inhibition is mediated through interaction with herpes virus 8 protein LANA1.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-KAP1 (phospho S824) antibody [BL-246-7B5] (ab243870) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse samples.

Other related products
We have a range of other formats of antibody clone [BL-246-7B5] also available for your convenience: ab243870, ab272068

REACH authorisation
Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	KAP1 also known as TRIM28 or TIF1B is a multifunctional protein involved in transcriptional regulation. It has a molecular weight of approximately 87 kDa. This protein is expressed in a wide variety of human tissues where it plays a role as a co-repressor for KRAB domain-containing zinc finger proteins. KAP1 recruits various epigenetic modifiers to silence transcription and this activity depends on its phosphorylation status. You might explore KAP1 using KAP1 ELISA kits and study its post-translational modifications like phosphorylation in various conditions.
Biological function summary	KAP1 acts as a scaffold protein facilitating the assembly of large protein complexes that include chromatin remodelers and histone deacetylases. It is significant in maintaining chromatin structure and mediating gene silencing. KAP1 phosphorylation serves as a switch between its roles in transcriptional repression and activation. This protein also interacts with heterochromatin protein 1 (HP1) and other TRIM family proteins playing an important role in genomic stability by controlling gene expression and repair mechanisms.
Pathways	KAP1 participates actively in p53 and DNA damage response pathways. In the p53 pathway KAP1 regulates genes involved in the cell cycle and apoptosis acting in conjunction with the p53 protein. Within the DNA damage response KAP1 modulates the repair of double-strand breaks by interacting with proteins like ATM kinase influencing cellular sensitivity to genotoxic stress. These pathways highlight its importance in maintaining cellular homeostasis and response to external stimuli.
Associated diseases and disorders	KAP1 has known connections with cancer and neurological disorders due to its regulatory effects on gene expression and genome stability. In cancer aberrant KAP1 activity can lead to unregulated cell proliferation and survival often involving changes in its interaction with the p53 protein. In neurological disorders dysregulation of KAP1 is associated with impaired neural development and

neurodegeneration. Altogether these associations highlight KAP1 as a potential target for therapeutic interventions in related diseases.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

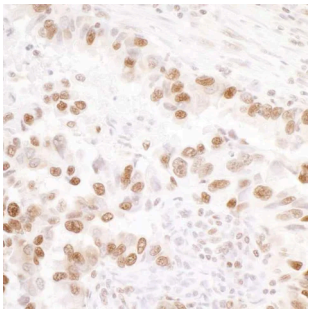
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

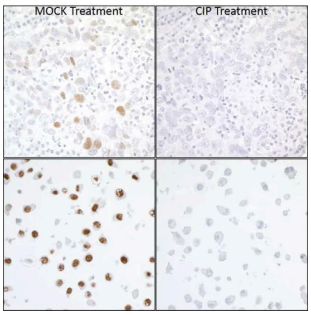
7 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KAP1 (phospho S824) antibody [BL-246-7B5] (ab243870)

KAP1 (phospho S824) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-KAP1 (phospho S824) antibody

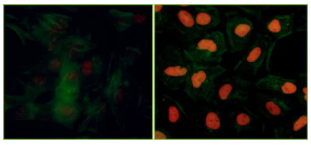
Formalin-fixed, paraffin-embedded human lung carcinoma tissue stained for KAPI (phospho S824) using ab243870 at 1/100 dilution in immunohistochemical analysis. A HRP-conjugated goat anti-rabbit IgG was used as the secondary. DAB staining.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KAP1 (phospho S824) antibody [BL-246-7B5] (ab243870)

KAP1 (phospho S824) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-KAP1 (phospho S824) antibody

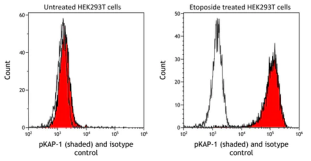
Formalin-fixed, paraffin-embedded human breast carcinoma tissue and serial sections of etoposide treated HeLa cells stained for KAPI (phospho S824) using ab243870 at 1/100 dilution in immunohistochemical analysis. Mock phosphatase treated sections (left) and calf intestinal phosphatase-treated sections (right) are also shown. A HRP-conjugated goat anti-rabbit IgG was used as the secondary. DAB staining.



Immunocytochemistry/ Immunofluorescence - Anti-KAP1 (phospho S824) antibody [BL-246-7B5] (ab243870)

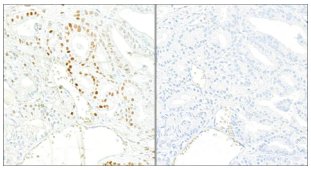
KAP1 (phospho S824) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-KAP1 (phospho S824) antibody

Formaldehyde-fixed HeLa (human epithelial cell line from cervix adenocarcinoma) cells treated with etoposide (right) or untreated (left) labeling KAP-1 (phospho S824) (red) using ab243862 at 1/100 dilution in ICC analysis. DyLight® 594-conjugated goat anti-rabbit IgG was used as the secondary antibody. Counterstain: Phalloidin conjugated Alexa Fluor® 488 (green).



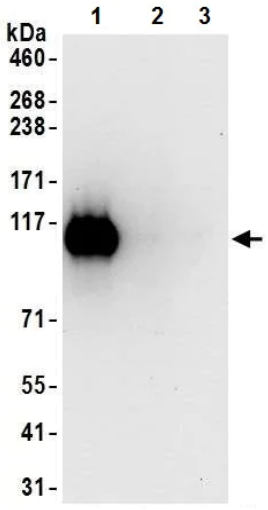
Flow Cytometry - Anti-KAP1 (phospho S824) antibody [BL-246-7B5] (ab243870)

Flow cytometry overlay histogram of 4% formaldehyde fixed HEK293T cells permeabilized with 90% methanol labeling human Phospho KAP-1 (S824) with ab243870 at 1 µl per 1 x 10^6 cells etoposide treated (shaded) compared with a Isotype control (unshaded). Secondary antibody details: DyLight® 488-conjugated goat anti-rabbit IgG (ab96883).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KAP1 (phospho S824) antibody [BL-246-7B5] (ab243870)

Immunohistochemical analysis of Formalin-Fixed Paraffin-Embedded human prostate carcinoma tissue labeling human Phospho KAP-1 (S824) with ab243870, followed by a HRP-conjugated goat anti-rabbit IgG as secondary. Substrate: DAB. Nuclear staining on human prostate carcinoma is observed. Counter stained with hematoxylin. Epitope retrieval with citrate buffer pH 6.0 for 20 minutes is recommended.



Immunoprecipitation - Anti-KAP1 (phospho S824) antibody [BL-246-7B5] (ab243870)

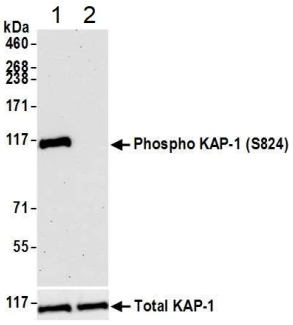
KAP1 (phospho S824) was immunoprecipitated from 1 mg HEK-293T whole cell lysate treated with 100 µM etoposide or untreated, using ab243870 at 20 µl per reaction. Western blot was performed on the immunoprecipitate using ab243870 at 1/1000 dilution. Lane 1: ab243870 IP in HEK-293T cell lysate treated with 100 µM etoposide.
Lane 2: ab243870 Ip in untreated HEK-293T whole cell lysate.

Lane 3: Control IgG in HEK-293T whole cell lysate treated with 100 µM etoposide.

Detection: Chemiluminescence with an exposure time of 10 seconds

All lanes:
Immunoprecipitation - Anti-KAP1 (phospho S824) antibody [BL-246-7B5] (ab243870)

Predicted band size: 88 kDa



Western blot - Anti-KAP1 (phospho S824) antibody [BL-246-7B5] (ab243870)

All lanes:
Western blot - Anti-KAP1 (phospho S824) antibody [BL-246-7B5] (ab243870) at 1/1000 dilution

Lane 1:
NIH/3T3 (Mouse embryonic fibroblast cell line) cells treated with 100 µM etoposide (+) at 50 µg

Lane 2:
NIH/3T3 (Mouse embryonic fibroblast cell line) cells, mock treated (-) at 50 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG antibody

Predicted band size: 88 kDa

Exposure time: 30s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.