abcam

ab313457

Anti-KAP1 (phosho S824) antibody [RP23040148]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Multiclonal
Immunogen	Synthetic Peptide within Human TRIM28 pS824. Database link Q13263
Clone number	RP23040148
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	2 µg/mL
Notes	-

WB

Tested

Species	Human
Dilution info	1-2 µg/mL
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	5 µg for 10^6 Cells
Notes	5 µg/1x10^6 cells

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	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

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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 TIF1β 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

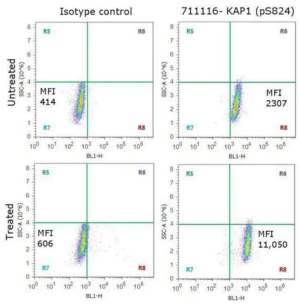
We do not recommend this combination. It is not covered by our product promise.

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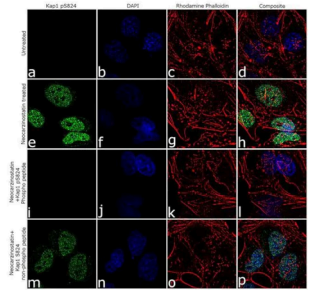
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2 product images



Flow Cytometry - Anti-KAP1 (phosho S824) Antibody [RP23040148] (ab313457)

Flow Cytometry analysis of endogenous KAP1 (pS824) was performed on HeLa cells (untreated) and HeLa cells treated with 200 ng/mL Neocarzinostatin for 30 minutes. Cells were labeled with Anti-KAP1 (pS824) (5 ug/ 1M cells) and detected with Goat anti-Rabbit IgG (H+L) Secondary Antibody, Alexa Fluor 488 conjugate (0.4 ug/mL, 1:2500). Rabbit IgG was used as the isotype control to determine nonspecific binding. A representative of 10,000 cells were acquired and analyzed for each sample.



Immunocytochemistry/ Immunofluorescence - Anti-KAP1 (phosho S824) Antibody [RP23040148] (ab313457)

For immunofluorescence analysis, HeLa cells were fixed and permeabilized for detection of endogenous KAP1 (pS824) using ab313457 (2 ug/ml) and labeled with Goat anti-Rabbit IgG (H+L) Secondary Antibody, Alexa Fluor® 488 conjugate (1:2000). Nuclei (blue) were stained using DAPI , and Rhodamine Phalloidin(1:300) was used for cytoskeletal F-actin (red) staining. Detection and localization of KAP1 pS824 (green) in the nucleus can be clearly observed in cells treated with Neocarzinostatin (200 ug/ml, 15 min) as compared to untreated cells. Antibody specificity was demonstrated by competition with the KAP1 pS824 peptide, which results in loss of signal. No competition was observed with the non-phospho peptide. The images were captured at 60X magnification.

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