

ARG42912 anti-TRIM28 / KAP1 antibody [9E3]

Package: 50 µg
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [9E3] recognizes TRIM28 / KAP1
Tested Reactivity	Hu, Ms, Rat
Tested Application	FACS, ICC/IF, IHC-Fr, IHC-P, WB
Host	Mouse
Clonality	Monoclonal
Clone	9E3
Isotype	IgG2a
Target Name	TRIM28 / KAP1
Species	Human
Immunogen	Recombinant protein corresponding to A699-P835 of Human TRIM28 / KAP1.
Conjugation	Un-conjugated
Alternate Names	TIF1-beta; Tripartite motif-containing protein 28; EC 6.3.2.-; KAP1; PPP1R157; TIF1B; RNF96; RING finger protein 96; KRIP-1; Nuclear corepressor KAP-1; Transcription intermediary factor 1-beta; KAP-1; KRAB-interacting protein 1; KRAB-associated protein 1; TF1B; E3 SUMO-protein ligase TRIM28

Application Instructions

Application table	Application	Dilution
	FACS	1:150 - 1:500
	ICC/IF	1:200 - 1:1000
	IHC-Fr	1:200 - 1:1000
	IHC-P	1:200 - 1:1000
	WB	1:500 - 1:2000
Application Note	IHC-P: Antigen Retrieval: Heat mediation was performed in EDTA buffer (pH 8.0). * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	
Observed Size	~ 100 kDa	

Properties

Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	0.2% Na ₂ HPO ₄ , 0.9% NaCl, 0.05% Sodium azide and 4% Trehalose.
Preservative	0.05% Sodium azide

Stabilizer	4% Trehalose
Concentration	0.5 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	TRIM28
Gene Full Name	tripartite motif containing 28
Background	The protein encoded by this gene mediates transcriptional control by interaction with the Kruppel-associated box repression domain found in many transcription factors. The protein localizes to the nucleus and is thought to associate with specific chromatin regions. The protein is a member of the tripartite motif family. This tripartite motif includes three zinc-binding domains, a RING, a B-box type 1 and a B-box type 2, and a coiled-coil region. [provided by RefSeq, Jul 2008]
Function	<p>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. Also specifically sumoylates IRF7, thereby inhibiting its transactivation activity. Ubiquitinates p53/TP53 leading to its proteosomal 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). Acts as a corepressor for ZFP568 (By similarity).</p> <p>(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. [UniProt]</p>
Calculated Mw	89 kDa
PTM	<p>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.</p> <p>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.</p>

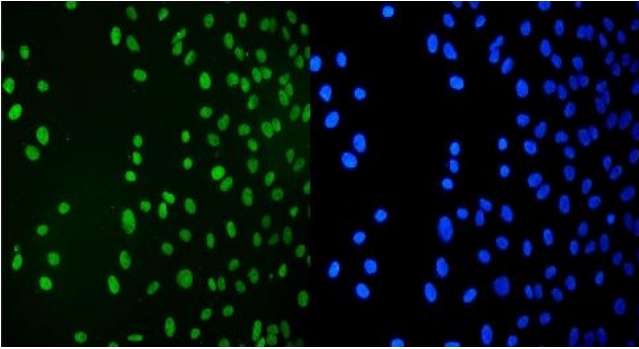
Auto-ubiquitinated; enhanced by MAGEA2 and MAGEC2.

Citrullinated by PADI4. [UniProt]

Cellular Localization

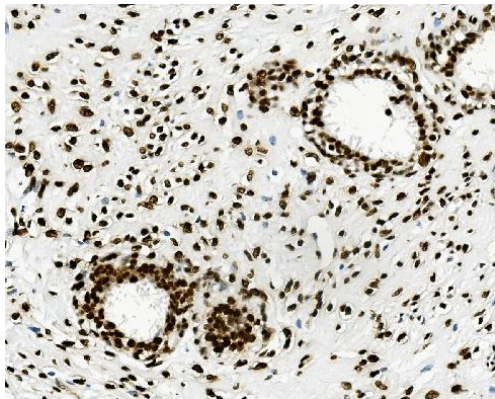
Nucleus. Note=Associated with centromeric heterochromatin during cell differentiation through CBX1. [UniProt]

Images



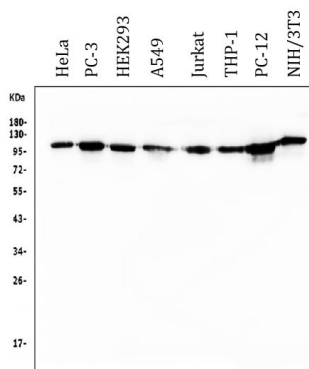
ARG42912 anti-TRIM28 / KAP1 antibody [9E3] ICC/IF image

Immunofluorescence: U2OS cells were blocked with 10% goat serum and then stained with ARG42912 anti-TRIM28 / KAP1 antibody [9E3] (green) at 2 µg/ml dilution, overnight at 4°C. DAPI (blue) for nuclear staining.



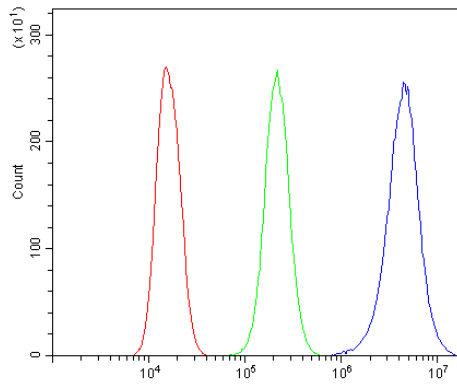
ARG42912 anti-TRIM28 / KAP1 antibody [9E3] IHC-P image

Immunohistochemistry: Paraffin-embedded Human mammary cancer tissue. Antigen Retrieval: Heat mediation was performed in EDTA buffer (pH 8.0). The tissue section was blocked with 10% goat serum. The tissue section was then stained with ARG42912 anti-TRIM28 / KAP1 antibody [9E3] at 1 µg/ml dilution, overnight at 4°C.



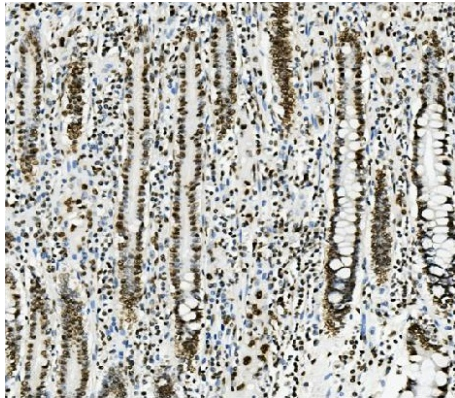
ARG42912 anti-TRIM28 / KAP1 antibody [9E3] WB image

Western blot: 50 µg of sample under reducing conditions. HeLa, PC-3, HEK293, A549, Jurkat, THP-1, PC-12 and NIH/3T3 whole cell lysates stained with ARG42912 anti-TRIM28 / KAP1 antibody [9E3] at 0.5 µg/ml dilution, overnight at 4°C.



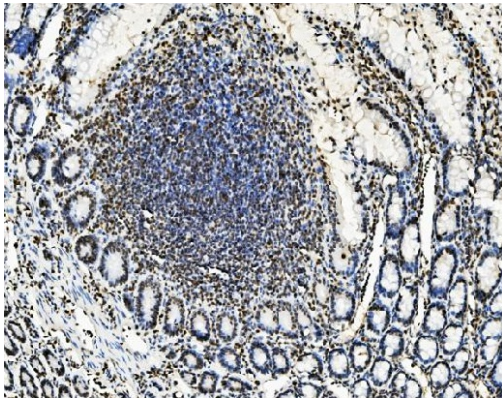
ARG42912 anti-TRIM28 / KAP1 antibody [9E3] FACS image

Flow Cytometry: A549 cells were blocked with 10% normal goat serum and then stained with ARG42912 anti-TRIM28 / KAP1 antibody [9E3] (blue) at 1 µg/10⁶ cells for 30 min at 20°C, followed by incubation with DyLight®488 labelled secondary antibody. Isotype control antibody (green) was Mouse IgG (1 µg/10⁶ cells) used under the same conditions. Unlabelled sample (red) was also used as a control.



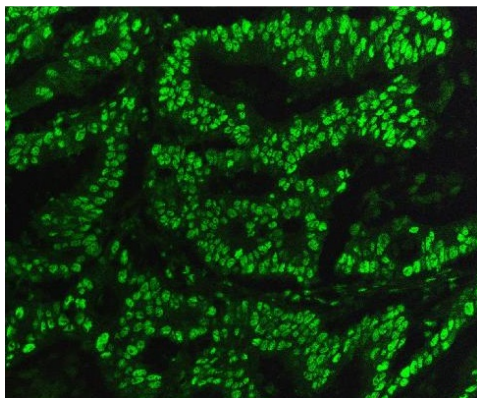
ARG42912 anti-TRIM28 / KAP1 antibody [9E3] IHC-P image

Immunohistochemistry: Paraffin-embedded Human rectal cancer tissue. Antigen Retrieval: Heat mediation was performed in EDTA buffer (pH 8.0). The tissue section was blocked with 10% goat serum. The tissue section was then stained with ARG42912 anti-TRIM28 / KAP1 antibody [9E3] at 1 µg/ml dilution, overnight at 4°C.



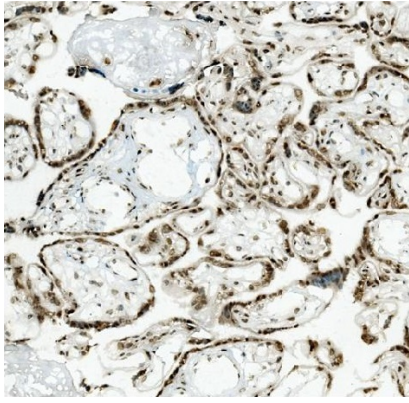
ARG42912 anti-TRIM28 / KAP1 antibody [9E3] IHC-P image

Immunohistochemistry: Paraffin-embedded Rat intestine tissue. Antigen Retrieval: Heat mediation was performed in EDTA buffer (pH 8.0). The tissue section was blocked with 10% goat serum. The tissue section was then stained with ARG42912 anti-TRIM28 / KAP1 antibody [9E3] at 1 µg/ml dilution, overnight at 4°C.



ARG42912 anti-TRIM28 / KAP1 antibody [9E3] IHC-P image

Immunohistochemistry: Paraffin-embedded Human rectal cancer tissue. Antigen Retrieval: Heat mediation was performed in EDTA buffer (pH 8.0). The tissue section was blocked with 10% goat serum. The tissue section was then stained with ARG42912 anti-TRIM28 / KAP1 antibody [9E3] at 2 µg/ml dilution, overnight at 4°C.



ARG42912 anti-TRIM28 / KAP1 antibody [9E3] IHC-Fr image

Immunohistochemistry: Frozen section of Human placenta tissue. The tissue section was blocked with 10% goat serum. The tissue section was then stained with ARG42912 anti-TRIM28 / KAP1 antibody [9E3] at 1 µg/ml dilution, overnight at 4°C.