10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

KAP1 / TIF1 beta Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52671

Product Information

Primary Accession	Q13263
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	88550

Additional Information

Gene ID	10155
Other Names	E3 SUMO protein ligase TRIM28;E3 SUMO-protein ligase TRIM28;FLJ29029;KAP 1;KAP-1;KRAB associated protein 1;KRAB interacting protein 1;KRAB-associated protein 1;KRAB-interacting protein 1;KRIP 1;KRIP-1;KRIP1;Nuclear corepressor KAP 1;Nuclear corepressor KAP-1;RING finger protein 96;RNF96;TF1B;TIF1 beta;TIF1-beta;TIF1B;TIF1B_HUMAN; Transcription intermediary factor 1 beta;Transcription intermediary factor 1-beta; TRIM28;Tripartite motif containing 28;tripartite motif containing protein 28;Tripartite motif-containing protein 28.
Format	Purified mouse monoclonal in buffer containing 0.1M Tris-Glycine (pH 7.4, 150 mM NaCl) with 0.09% (W/V) sodium azide, 50%,glycerol
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

Name	TRIM28 (HGNC:16384)
Synonyms	KAP1, RNF96, TIF1B
Function	E3 SUMO and ubiquitin ligase that plays a pivotal role in embryonic development, genomic imprinting, and maintenance of genomic stability through repression of repetitive and retroviral elements. Also involved in DNA repair, regulation of innate immunity or cellular energy homeostasis. Acts as a scaffold for assembling transcriptional repression complexes containing methyltransferases, histone deacetylases, and chromatin remodelers. Serves as a nuclear corepressor for KRAB domain-containing zinc finger proteins (KRAB-ZFPs), mediating gene silencing by recruiting CHD3, a subunit of the nucleosome remodeling and deacetylation (NuRD) complex, and SETDB1, which methylates histone H3 at 'Lys-9' (H3K9me), leading to heterochromatin formation. In collaboration with SETDB1, is also required for H3K9me3 and

	silencing of endogenous and introduced retroviruses in a DNA- methylation independent-pathway (By similarity). Functions as a coactivator for CEBPB and NR3C1 (glucocorticoid receptor) in transcriptional activation of ORM1, and as a corepressor for ERBB4. Inhibits E2F1 activity by promoting E2F1-HDAC1 complex formation and preventing E2F1 acetylation. This contributes to CDKN1A/p21(CIP1) regulation and provides a partial backup to suppress E2F1-mediated apoptosis in the absence of RB1. Mediates the nuclear localization of several KRAB-ZFP transcription factors including KOX1, ZNF268, and ZNF300 among others. 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). Required to maintain a transcriptionally repressive state of genes in undifferentiated embryonic stem cells (ESCs) (PubMed:24623306). Acts as a corepressor for ZFP568. Beyond its nuclear functions, acts as a positive regulator of type I interferon (IFN-I) signaling by promoting Lys-63-linked ubiquitination of TBK1, facilitating TBK1-IRF3 complex formation (PubMed:38495890). Mediates TRAF6 SUMOylation to regulate its nucleo-cytoplasmic shuttling and modulate activation of the canonical NF-kappa-B signaling pathway (PubMed:39920527). Facilitates SUMOylation of NLRP3, protecting it from 'Lys-48'-linked ubiquitination and proteasomal degradation and thereby enhancing inflammasome activation (PubMed:34373456).
Cellular Location	Nucleus. Note=Associated with centromeric heterochromatin during cell differentiation through CBX1 (By similarity). Localizes to sites of DNA damage (PubMed:25593309) {ECO:0000250|UniProtKB:Q62318, ECO:0000269|PubMed:25593309}
Tissue Location	Expressed in all tissues tested including spleen, thymus, prostate, testis, ovary, small intestine, colon and peripheral blood leukocytes.

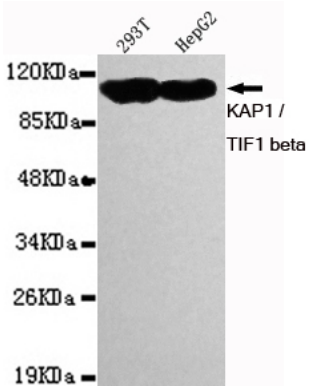
Background

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.

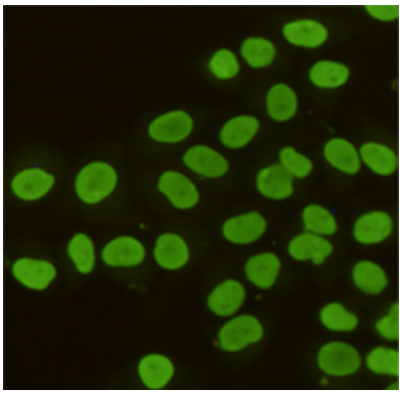
References

Friedman J.R.,et al.Genes Dev. 10:2067-2078(1996).
Moosmann P.R.,et al.Nucleic Acids Res. 24:4859-4867(1996).
Emison E.S.,et al.Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.
Bienvenut W.V.,et al.Submitted (MAY-2006) to UniProtKB.
Bienvenut W.V.,et al.Submitted (JAN-2010) to UniProtKB.

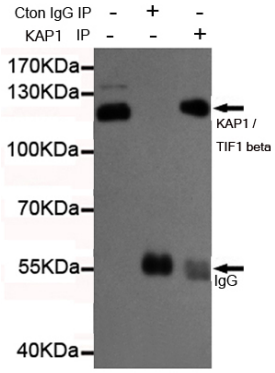
Images



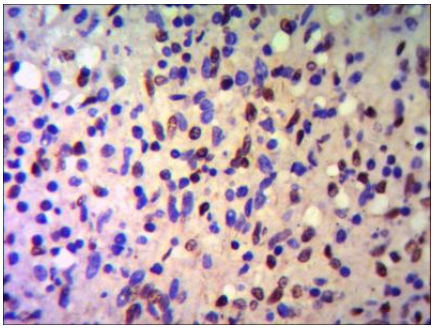
Western blot detection of KAP1 / TIF1 beta in 293T and HepG2 cell lysates using KAP1 / TIF1 beta mouse mAb (1:1000 diluted).Observed band size: 110KDa.



Immunocytochemistry staining of HeLa cells fixed with 4% Paraformaldehyde and using anti-KAP1 / TIF1 beta mouse mAb (dilution 1:100).



Immunoprecipitation analysis of Hela cell lysates using KAP1 / TIF1 beta mouse mAb.



IHC of paraffin-embedded human Spleen using anti-KAP1 / TIF1 beta diluted 1/500-1/1000.

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