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TRIM28 Antibody

Catalog # ASC10160

Product Information

Application	WB, E
Primary Accession	Q13263
Other Accession	NP_005753, 5032179
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	88550
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	TRIM28 antibody can be used for detection of TRIM28 by Western blot at 1 - 2 g/mL.

Additional Information

Gene ID	10155
Other Names	TRIM28 Antibody: KAP1, TF1B, RNF96, TIF1B, KAP1, Transcription intermediary factor 1-beta, E3 SUMO-protein ligase TRIM28, TIF1-beta, tripartite motif containing 28
Target/Specificity	TRIM28; At least three isoforms of TRIM28 are known to exist; this antibody will detect all three isoforms
Reconstitution & Storage	TRIM28 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	TRIM28 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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.

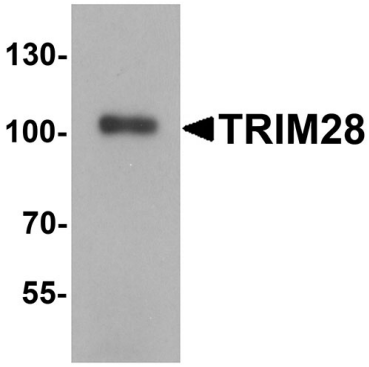
Background

TRIM28 Antibody: TRIM28, also known as KAP-1, is a member of the Transcriptional Intermediary Factor 1 (TIF1) subfamily and contains a RING finger, B box, Coiled coil, PHD/TTC, and bromodomain. TRIM28 is a corepressor for Kruppel-associated box (KRAB)-domain-containing zinc finger proteins and plays a critical role in early embryogenesis. TRIM28 acts as a transcriptional mediator by binding liganded nuclear receptors, including retinoic acid (RAR), retinoid X (RXR) and estrogen (ER) receptors. TRIM28 associates with both heterochromatin and euchromatin, causing gene silencing by both HP1 binding and histone deacetylation.

References

Friedman JR, Fredericks WJ, Jensen DE, et al. KAP-1, a novel corepressor for the highly conserved KRAB repression domain. Genes Dev. 1996; 10:2067-78.
Cammas F, Mark M, Dolle P, et al. Mice lacking the transcriptional corepressor TIF1beta are defective in early postimplantation development. Dev. 2000; 127:2955-63.
Chang CJ, Chen YL, and Lee SC. Coactivator TIF1beta interacts with transcription factor C/EBPbeta and glucocorticoid receptor to induce alpha1-acid glycoprotein gene expression. Mol. Cell Biol. 1998; 18:5880-7
Groner AC, Meylan S, Ciuffi A, et al. KRAB-zinc finger proteins and KAP1 can mediate long-range transcriptional repression through heterochromatin spreading. PLoS Genet. 2010; 6:e1000869.

Images



Western blot analysis of TRIM28 in human testis tissue lysate with TRIM28 antibody at 1 µg/mL.

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