



## Rabbit Anti-TIF1 beta/KAP1/Trim28 antibody

SL3581R

<b>Product Name:</b>	TIF1 beta/KAP1/Trim28
<b>Chinese Name:</b>	转录中介因子Tif1 $\beta$ 抗体
<b>Alias:</b>	TRIM28; TIF1 beta; E3 SUMO protein ligase TRIM28; E3 SUMO-protein ligase TRIM28; FLJ29029; KAP1; 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.
<b>Organism Species:</b>	Rabbit
<b>Clonality:</b>	Polyclonal
<b>React Species:</b>	Human,Mouse,Rat,Dog,Cow,Rabbit,
<b>Applications:</b>	ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800IF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
<b>Molecular weight:</b>	88kDa
<b>Cellular localization:</b>	The nucleus
<b>Form:</b>	Lyophilized or Liquid
<b>Concentration:</b>	1mg/ml
<b>immunogen:</b>	KLH conjugated synthetic peptide derived from human TIF1 beta:651-750/835
<b>Lsotype:</b>	IgG
<b>Purification:</b>	affinity purified by Protein A
<b>Storage Buffer:</b>	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
<b>Storage:</b>	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
<b>PubMed:</b>	<a href="#">PubMed</a>

The KRAB (Krüppel Associated Box) domain is minimally about 45 amino acids in length and is a transcriptional repression domain found in numerous transcription factors. Over 220 KRAB zinc finger protein (KRAB ZFP) genes have been identified in the human genome. These proteins functionally repress transcription via specific interactions with KAP1 (KRAB Associated Protein 1). KAP1 is an 835 amino acid polypeptide that contains a RING finger, B boxes, and a PHD finger. KAP1 has been shown to form complexes with KRAB domain transcription factors and increase the efficiency with which they mediate repression. KAP1 has also been shown to directly interact with HP1 (heterochromatin protein 1) and KRAZ1 (Krüppel associated box containing zinc finger protein 1). KAP1 directly targets KRAZ1 to the foci of centromeric heterochromatin containing HP1 $\alpha$ , helping to regulate transcriptional repression. Recent studies have shown that KAP1 mutants with the ability to bind KRAB but unable to bind HP1 leads to random distribution of KRAZ1 and strong transcriptional activation.

**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 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.

**Subunit:**

Oligomer; the RBCC domain homotrimerizes and interacts with one molecule of KRAB to form the KRAB-KAP1 corepressor complex. Binding to a KRAB domain is an absolute requirement for silencing gene expression. Interacts with CEBPB and NR3C1 (By similarity). Interacts with a number of KRAB-ZFP proteins including ZNF10, ZFP53, ZFP68, ZNF382 and ZNF256. Interacts with NCOR1, NR3C1 and CHD3. Interacts with CEBPB (via the RING-type and PHD-type zinc fingers). Component of a ternary complex that includes TRIM28, a HP1 protein (CBX1, CBX3 OR CBX5), a KRAB domain-containing protein, and DNA. Interacts with CBX5 (via the PxVxL motif); the interaction occurs in interphase nuclei and competes for binding POGZ. Interacts with POGZ; the interaction competes for interaction with CBX5. Interacts with SETDB1; the interaction is enhanced by KAP1 sumoylation, stimulates SETDB1 histone methyltransferase activity and gene silencing. Interacts (via the PHD-type zinc finger)

**Product Detail:**

with UBE2I; the interaction is required for sumoylation and repressor activity. Component of the TRIM28/KAP1-ERBB4-MDM2 complex involved in connecting growth factor and DNA damage responses. Interacts directly with ERBB4; the interaction represses ERBB4-mediated transcription activity. Interacts with MDM2; the interaction contributes to p53/TP53 inactivation. Component of the TRIM28/KAP1-MDM2-p53/TP53; involved in regulating p53/TP53 stabilization and activity. Interacts (via the leucine zipper alpha helical coiled-coil) with E2F1 (central region); the interaction inhibits E2F1 acetylation and transcriptional activity. Interacts with PPP1CA; the interaction dephosphorylates TRIM28 at Ser-824 and forms a complex at the p21 promoter site. Interacts with PPP1CB; the interaction is weak but is increased on dephosphorylation at Ser-824. Interacts with FES/FPS. Interacts with SMARCD1. Interacts with, and sumoylates IRF7. Interacts with MAGEC2. Part of a complex composed of TRIM28, HDAC1, HDAC2 and EHMT2.

**Subcellular Location:**

Nucleus. Note=Associated with centromeric heterochromatin during cell differentiation through CBX1 (By similarity).

**Tissue Specificity:**

Expressed in all tissues tested including spleen, thymus, prostate, testis, ovary, small intestine, colon and peripheral blood leukocytes.

**Post-translational modifications:**

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 PPP1CB forms, allows sumoylation and expression of TRIM28 target genes.

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.

Auto-ubiquitinated; enhanced by MAGEA2 and MAGEC2.

**Similarity:**

Belongs to the TRIM/RBCC family.

Contains 2 B box-type zinc fingers.

Contains 1 bromo domain.

Contains 1 PHD-type zinc finger.

Contains 1 RING-type zinc finger.

**SWISS:**

Q13263

**Gene ID:**  
10155

**Database links:**

[Entrez Gene: 10155](#)Human

[Entrez Gene: 21849](#)Mouse

[Entrez Gene: 116698](#)Rat

[Omin: 601742](#)Human

[SwissProt: Q13263](#)Human

[SwissProt: Q62318](#)Mouse

[SwissProt: O08629](#)Rat

[Unigene: 467408](#)Human

[Unigene: 15701](#)Mouse

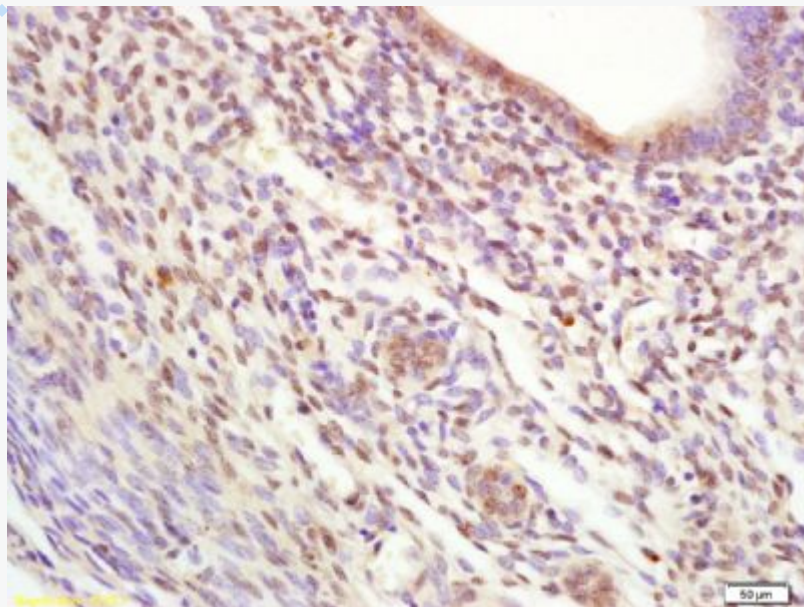
[Unigene: 398345](#)Mouse

[Unigene: 198494](#)Rat

**Important Note:**

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

**Picture:**



Tissue/cell: rat uterus tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;  
Antigen retrieval: citrate buffer ( 0.01M, pH 6.0 ), Boiling bathing for 15min; Block  
endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer  
(normal goat serum,C-0005) at 37°C for 20 min;  
Incubation: Anti-TIF1 beta/KAP1/TRIM28 Polyclonal Antibody,  
Unconjugated(SL3581R) 1:200, overnight at 4°C, followed by conjugation to the  
secondary antibody(SP-0023) and DAB(C-0010) staining

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