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TRIM24 Rabbit pAb

Catalog # AP100239

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	O15164
Other Accession	O15164
Reactivity	Human, Mouse
Predicted	Rat, Pig, Rabbit, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	116831
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human TRIM24
Epitope Specificity	901-1050/1050
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 2 B box-type zinc fingers.Contains 1 bromo domain.Contains 1 PHD-type zinc finger.Contains 1 RING-type zinc finger.
SUBUNIT	Interacts with CARM1, NCOA2/GRIP1, PML, KAT5/TIP60, BRD7, CBX1, CBX3 and CBX5. Part of a coactivator complex containing TRIM24, NCOA2 and CARM1 (By similarity). Interacts with NR3C2/MCR. Interacts with the ligand-binding domain of estrogen receptors (in vitro). Interaction with DNA-bound estrogen receptors requires the presence of estradiol. Interacts with AR and p53/TP53. Interacts (via bromo domain) with histone H3 (via N-terminus), provided that it is not methylated at 'Lys-4' (H3K4me0). Does not interact with histone H3 that is methylated at 'Lys-4' (H3K4me1, H3K4me2 or H3K4me3). Interacts (via bromo domain) with histone H3 (via N-terminus) that is acetylated at 'Lys-23' (H3K23ac). Has the highest affinity for histone H3 that is both unmodified at 'Lys-4' (H3K4me0) and acetylated at 'Lys-23' (H3K23ac). Has very low affinity for histone H3 that is methylated at 'Lys-9' (H3K9me), or acetylated at both 'Lys-9' (H3K9ac) and 'Lys-14' (H3K14ac), or acetylated at 'Lys-27' (H3K27ac) (in vitro).
Post-translational modifications	Phosphorylated upon DNA damage, probably by ATM or ATR.Sumoylated (By similarity).
DISEASE	Defects in TRIM24 are a cause of thyroid papillary carcinoma (TPC) [MIM:188550]. TPC is a common tumor of the thyroid that typically arises as an irregular, solid or cystic mass from otherwise normal thyroid tissue. Papillary carcinomas are malignant neoplasm characterized by the formation of numerous, irregular, finger-like projections of fibrous stroma that is covered with a surface layer of neoplastic epithelial cells. Note=A chromosomal aberration involving TRIM24/TIF1 is found in thyroid papillary carcinomas. Translocation t(7;10)(q32;q11) with RET. The translocation generates the TRIM24/RET (PTC6) oncogene.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The protein encoded by this gene mediates transcriptional control by interaction with the activation function 2 (AF2) region of several nuclear

receptors, including the estrogen, retinoic acid, and vitamin D3 receptors. The protein localizes to nuclear bodies and is thought to associate with chromatin and heterochromatin-associated factors. The protein is a member of the tripartite motif (TRIM) family. The TRIM motif includes three zinc-binding domains - a RING, a B-box type 1 and a B-box type 2 - and a coiled-coil region. Two alternatively spliced transcript variants encoding different isoforms have been described for this gene. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	8805
Other Names	PTC6; RNF82; TF1A; TIF1; TIF1A; TIF1ALPHA; hTIF1; A130082H20Rik; D430004I05Rik; TIF1-alpha; TIF1A_HUMAN; TRIM24; E3 ubiquitin-protein ligase TRIM24; RING finger protein 82; RING-type E3 ubiquitin transferase TIF1-alpha; Tripartite motif-containing protein 24; 2.3.2.27; TIF1A_MOUSE; tripartite motif containing 24; transcriptional intermediary factor 1; tripartite motif-containing 24
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. 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.

Protein Information

Name	TRIM24
Synonyms	RNF82, TIF1, TIF1A
Function	Transcriptional coactivator that interacts with numerous nuclear receptors and coactivators and modulates the transcription of target genes. Interacts with chromatin depending on histone H3 modifications, having the highest affinity for histone H3 that is both unmodified at 'Lys-4' (H3K4me0) and acetylated at 'Lys-23' (H3K23ac). Has E3 protein-ubiquitin ligase activity. During the DNA damage response, participates in an autoregulatory feedback loop with TP53. Early in response to DNA damage, ATM kinase phosphorylates TRIM24 leading to its ubiquitination and degradation. After sufficient DNA repair has occurred, TP53 activates TRIM24 transcription, ultimately leading to TRIM24-mediated TP53 ubiquitination and degradation (PubMed:24820418). Plays a role in the regulation of cell proliferation and apoptosis, at least in part via its effects on p53/TP53 levels. Up- regulates ligand-dependent transcription activation by AR, GCR/NR3C1, thyroid hormone receptor (TR) and ESR1. Modulates transcription activation by retinoic acid (RA) receptors, including RARA. Plays a role in regulating retinoic acid-dependent proliferation of hepatocytes (By similarity). Also participates in innate immunity by mediating the specific 'Lys-63'-linked ubiquitination of TRAF3 leading to activation of downstream signal transduction of the type I IFN pathway (PubMed:32324863). Additionally, negatively regulates NLRP3/CASP1/IL- 1beta-mediated pyroptosis and cell migration probably by ubiquitinating NLRP3 (PubMed:33724611).
Cellular Location	Nucleus. Cytoplasm. Mitochondrion. Note=Colocalizes with sites of active transcription. Predominantly nuclear. Translocated from nucleus to mitochondria to mediate antiviral immunity (PubMed:32324863). Localizes to

sites of DNA damage (PubMed:25593309).

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