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TCAB1 Rabbit pAb

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Catalog # AP58902

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q9BUR4
Reactivity	Rat, Human, Mouse
Predicted	Rabbit, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	59309
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human WDR79/TCAB1
Epitope Specificity	285-390/548
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus, Cajal body. Cytoplasm.
DISEASE	Defects in WRAP53 are the cause of dyskeratosis congenital autosomal recessive type 3 (DKCB3) [MIM:613988]. A rare multisystem disorder caused by defective telomere maintenance. It is characterized by progressive bone marrow failure, and the clinical triad of reticulated skin hyperpigmentation, nail dystrophy, and mucosal leukoplakia. Common but variable features include premature graying, aplastic anemia, low platelets, osteoporosis, pulmonary fibrosis, and liver fibrosis among others. Early mortality is often associated with bone marrow failure, infections, fatal pulmonary complications, or malignancy.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	WDR79 contains six WD (tryptophan-aspartate) repeat domains found in a number of proteins that function as adaptor molecules in signal transduction and cytoskeletal organization. The WD repeat is defined by four or more repeating units of a conserved core of approximately 40 amino acids ending with tryptophan-aspartic acid (WD). WD repeats may serve as sites of protein-protein interaction for adaptor proteins and facilitate multiprotein complex formation. The function of the WDR79 protein has not been characterized, however significant and consistent single nucleotide polymorphisms in the WDR79 gene have been found to be associated with ER negative breast cancer.

Additional Information

Gene ID	55135
Other Names	Telomerase Cajal body protein 1, WD repeat-containing protein 79, WD40

	repeat-containing protein antisense to TP53 gene, WRAP53beta, WRAP53 {ECO:0000303|PubMed:19250907, ECO:0000312|HGNC:HGNC:25522}
Dilution	WB=1:500-2000,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	WRAP53 {ECO:0000303|PubMed:19250907, ECO:0000312|HGNC:HGNC:25522}
Function	RNA chaperone that plays a key role in telomere maintenance and RNA localization to Cajal bodies (PubMed:29695869, PubMed:29804836). Specifically recognizes and binds the Cajal body box (CAB box) present in both small Cajal body RNAs (scaRNAs) and telomerase RNA template component (TERC) (PubMed:19285445, PubMed:20351177, PubMed:29695869, PubMed:29804836). Essential component of the telomerase holoenzyme complex, a ribonucleoprotein complex essential for the replication of chromosome termini that elongates telomeres in most eukaryotes (PubMed:19179534, PubMed:20351177, PubMed:26170453, PubMed:29695869). In the telomerase holoenzyme complex, required to stimulate the catalytic activity of the complex (PubMed:27525486, PubMed:29804836). Acts by specifically binding the CAB box of the TERC RNA and controlling the folding of the CR4/CR5 region of the TERC RNA, a critical step for telomerase activity (PubMed:29804836). In addition, also controls telomerase holoenzyme complex localization to Cajal body (PubMed:22547674). During S phase, required for delivery of TERC to telomeres during S phase and for telomerase activity (PubMed:29804836). In addition to its role in telomere maintenance, also required for Cajal body formation, probably by mediating localization of scaRNAs to Cajal bodies (PubMed:19285445, PubMed:21072240). Also plays a role in DNA repair: phosphorylated by ATM in response to DNA damage and relocalizes to sites of DNA double- strand breaks to promote the repair of DNA double-strand breaks (PubMed:25512560, PubMed:27715493). Acts by recruiting the ubiquitin ligase RNF8 to DNA breaks and promote both homologous recombination (HR) and non-homologous end joining (NHEJ) (PubMed:25512560, PubMed:27715493).
Cellular Location	Nucleus, Cajal body. Chromosome, telomere. Chromosome. Note=Released from telomerase RNA template component (TERC) in mitotic cells coincident with delocalization from Cajal bodies (PubMed:26170453). In response to DNA damage, localizes to sites of DNA double-strand breaks following phosphorylation by ATM (PubMed:26734725, PubMed:27715493)
Tissue Location	Expressed in all tissues and cell lines examined.

Background

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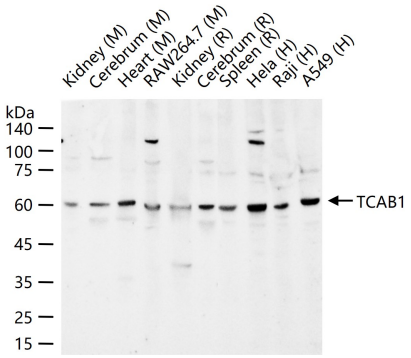
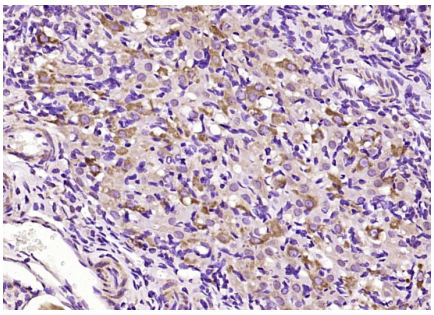
Images



25 ug total protein per lane of various lysates (see on figure) probed with TCAB1 polyclonal antibody, unconjugated (AP58902) at 1:1000 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min.



Paraformaldehyde-fixed, paraffin embedded (rat ovary tissue); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (TCAB1) Polyclonal Antibody, Unconjugated (AP58902) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.