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C22orf28 Rabbit pAb

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Catalog # AP59455

Product Information

Application	WB
Primary Accession	Q9Y3I0
Reactivity	Mouse
Predicted	Rat, Pig, Human, Rabbit, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	55210
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human HSPC117/C22orf28
Epitope Specificity	411-505/505
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	Cytoplasm.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	HSPC117, also known as C22orf28, is a 505 amino acid protein that is encoded by a gene which maps to human chromosome 22. A highly homologous protein identified in rodents, FAAP (focal adhesion associated protein), encoded by murine D10Wsu52e gene, has been suggested to play a role in regulating cell adhesion dynamics. Chromosome 22 houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, Neurofibromatosis type 2, autism and schizophrenia. Additionally, translocations between chromosomes 9 and 22 may lead to the formation of the Philadelphia Chromosome and the subsequent production of the novel fusion protein BCR-Abl, a potent cell proliferation activator found in several types of leukemias.

Additional Information

Gene ID	51493
Other Names	RNA-splicing ligase RTCB, 6.5.1.8 {ECO:0000255|HAMAP-Rule:MF_03144, ECO:0000269|PubMed:24870230}, 3'-phosphate/5'-hydroxy nucleic acid ligase {ECO:0000255|HAMAP-Rule:MF_03144, ECO:0000305}, RNA 2', 3'-cyclic phosphate and 5'-OH ligase {ECO:0000312|HGNC:HGNC:26935}, RTCB (HGNC:26935)
Dilution	WB=1:500-2000

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

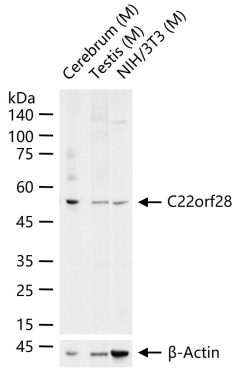
Name	RTCB (HGNC:26935)
Function	3'-5' RNA ligase, catalytic subunit of the tRNA-splicing ligase complex (tRNA-LC), which is involved in the enzyme-dependent maturation of intron-containing pre-tRNAs. Functions downstream of the tRNA-splicing endonuclease that removes introns, ligating the two generated halves via phosphodiester bond formation (PubMed:40069351). The ligation reaction, which requires guanosine triphosphate (GTP) and Mn(2+), proceeds through three metal-dependent steps. The first step requires ZBTB8OS/Archease and involves the guanylylation of RTCB at its active site histidine, forming a covalent GMP-histidine intermediate. Before the second step, RTCB also hydrolyzes the 2',3'-cyclic phosphate (cP) at the 3' end of the 5' tRNA exon, typically generated by the tRNA-splicing endonuclease, producing a 3' phosphate. The covalently bound GMP is then transferred to this 3' phosphate to form an RNA(3')- P-P-(5')G intermediate. In the final step, the 5'-OH of the 3' exon attacks the activated 3' end of the 5' exon, forming a 3'-5' phosphodiester bond and releasing GMP (PubMed:24870230, PubMed:38493148). RTCB also functions in non-canonical, spliceosome-independent, cytoplasmic splicing of XBP1 mRNAs during the unfolded protein response (UPR). Upon endoplasmic reticulum (ER) stress, the endoribonuclease IRE1/ERN1 excises a short intron, generating free exon ends that are aligned by RNA-intrinsic, zipper-like stem-loop structures. These exon ends are then recognized and ligated by RTCB. This splicing event yields the active XBP1s transcription factor, which induces genes required to resolve protein folding defects in the endoplasmic reticulum (PubMed:25378478, PubMed:26483401, PubMed:38493148).
Cellular Location	Nucleus. Cytoplasm {ECO:0000255|HAMAP- Rule:MF_03144, ECO:0000269|PubMed:24608264, ECO:0000269|PubMed:25378478}. Note=Enters into the nucleus in case of active transcription while it accumulates in cytosol when transcription level is low.

Background

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Images

25 ug total protein per lane of various lysates (see on figure) probed with C22orf28 polyclonal antibody, unconjugated (AP59455) at 1:1000 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.