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RNF56 Rabbit pAb

Catalog # AP99877

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q13191
Other Accession	Q13191
Reactivity	Human
Predicted	Rat, Pig, Mouse, Chicken, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	109450
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human RNF56/CBLB
Epitope Specificity	101-200/982
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 1 Cbl-PTB (Cbl-type phosphotyrosine-binding) domain.Contains 1 RING-type zinc finger.Contains 1 UBA domain.
SUBUNIT	Interacts with SH3 domain-containing proteins LCK, CRK and SORBS1. Interacts with LCP2 and ZAP70. May interact with CBL. Interacts with SH3 domain-containing proteins VAV1, FYN, FGR, PLCG1, GRB2, CRKL, PIK3R1 and SH3KBP1/CIN85. Identified in heterotrimeric complexes with SH3KBP1/CIN85, CD2AP and ARHGEF7, where one CBLB peptide binds two copies of the other protein. Interacts with poly-ubiquitinated proteins. Dimerization is required for the binding of poly-ubiquitin, but not for the binding of mono-ubiquitin.
Post-translational modifications	Phosphorylated on tyrosine and serine residues upon TCR or BCR activation, and upon various types of cell stimulation.Auto-ubiquitinated upon EGF-mediated cell activation or upon T-cell costimulation by CD28; which promotes proteasomal degradation.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	CBLB (Cas Br M (murine) ecotropic retroviral transforming sequence b) has high homology to CBL, the proto-oncogene that induces pre-B cell lymphomas and myeloid leukemias in mice. Like CBL, CBLB contains putative nuclear localization signal, zinc finger, leucine zipper, and proline-rich domains. CBLB associates with FYN, FGR, and PLCG1. Acts an E3 ubiquitin-protein ligase which accepts ubiquitin from specific E2 ubiquitin-conjugating enzymes, and transfers it to substrates, generally promoting their degradation by the proteasome. Negatively regulates TCR (T-cell receptor), BCR (B-cell receptor) and FCER1 (high affinity immunoglobulin epsilon receptor) signal transduction pathways. In naive T-cells, inhibits VAV1 activation upon TCR engagement and imposes a requirement for CD28 costimulation for proliferation and IL-2 production. Also acts by promoting PIK3R1/p85 ubiquitination, which impairs its recruitment to the TCR and subsequent activation. In activated T-cells, inhibits PLCG1 activation and calcium mobilization upon restimulation and promotes anergy. In B-cells, acts by ubiquitinating SYK and promoting its proteasomal degradation. May also be involved in EGFR ubiquitination and

internalization. In addition to its role in the prevention of chronic inflammation and autoimmunity, CBLB also has a function in acute lung inflammation. There are 4 isoforms produced by alternative splicing.

Additional Information

Gene ID	868
Other Names	ADMIO3; Cbl-b; Nbla00127; RNF56; CBLB_HUMAN; CBLB; Casitas B-lineage lymphoma proto-oncogene b; RING finger protein 56; RING-type E3 ubiquitin transferase CBL-B; SH3-binding protein CBL-B; Signal transduction protein CBL-B; 2.3.2.27; CBLB_MOUSE; CBLB_RAT; Cbl proto-oncogene B; Cas-Br-M (murine) ectropic retroviral transforming sequence b; Cas-Br-M (murine) ecotropic retroviral transforming sequence b; Cbl proto-oncogene B, E3 ubiquitin protein ligase
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	CBLB
Synonyms	RNF56
Function	E3 ubiquitin-protein ligase which accepts ubiquitin from specific E2 ubiquitin-conjugating enzymes, and transfers it to substrates, generally promoting their degradation by the proteasome (PubMed:20525694, PubMed:40101708). Negatively regulates TCR (T-cell receptor), BCR (B-cell receptor) and FCER1 (high affinity immunoglobulin epsilon receptor) signal transduction pathways (PubMed:40101708). In naive T-cells, inhibits VAV1 activation upon TCR engagement and imposes a requirement for CD28 costimulation for proliferation and IL-2 production (By similarity). Also acts by promoting PIK3R1/p85 ubiquitination, which impairs its recruitment to the TCR and subsequent activation (PubMed:11087752, PubMed:11526404). In activated T-cells, inhibits PLCG1 activation and calcium mobilization upon restimulation and promotes anergy (By similarity). Involved in LAG3-mediated inhibition of TCR signaling: following ligand-binding to LAG3, catalyzes 'Lys-63'-linked ubiquitination of LAG3, unleashing the LAG3 C-terminus from the membrane, and initiating a signaling that prevents TCR activation (PubMed:39030301, PubMed:40101708). In B-cells, acts by ubiquitinating SYK and promoting its proteasomal degradation (By similarity). Slightly promotes SRC ubiquitination (PubMed:14661060). May be involved in EGFR ubiquitination and internalization (PubMed:10086340). May be functionally coupled with the E2 ubiquitin-protein ligase UB2D3. In association with CBL, required for proper feedback inhibition of ciliary platelet-derived growth factor receptor-alpha (PDGFRA) signaling pathway via ubiquitination and internalization of PDGFRA (By similarity).
Cellular Location	Cytoplasm. Note=Upon EGF stimulation, associates with endocytic vesicles
Tissue Location	Expressed in placenta, heart, lung, kidney, spleen, ovary and testis, as well as fetal brain and liver and hematopoietic cell lines, but not in adult brain, liver,

pancreas, salivary gland, or skeletal muscle. Present in lymphocytes (at protein level)

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