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Cbl Antibody

Catalog # ASC10472

Product Information

Application	WB, IF, E
Primary Accession	P22681
Other Accession	P22681, 115855
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	99633
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Cbl antibody can be used for detection of cbl by Western blot at 0.5 - 2 g/mL. Antibody can also be used for immunoflourescence starting at 20 g/mL.

Additional Information

Gene ID	867
Other Names	Cbl Antibody: CBL2, NSLL, C-CBL, RNF55, FRA11B, CBL2, E3 ubiquitin-protein ligase CBL, Casitas B-lineage lymphoma proto-oncogene, Cas-Br-M (murine) ecotropic retroviral transforming sequence
Target/Specificity	CBL;
Reconstitution & Storage	Cbl antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	Cbl Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CBL
Synonyms	CBL2, RNF55
Function	E3 ubiquitin-protein ligase that acts as a negative regulator of many signaling pathways by mediating ubiquitination of cell surface receptors (PubMed:10514377, PubMed:11896602, PubMed:14661060, PubMed:14739300, PubMed:15190072, PubMed:17509076, PubMed:18374639, PubMed:19689429, PubMed:21596750, PubMed:28381567, PubMed:40101708). Accepts ubiquitin from specific E2 ubiquitin-conjugating enzymes, and then transfers it to substrates promoting

	their degradation by the proteasome (PubMed:10514377, PubMed:14661060, PubMed:14739300, PubMed:17094949, PubMed:17509076, PubMed:17974561). Recognizes activated receptor tyrosine kinases, including KIT, FLT1, FGFR1, FGFR2, PDGFRA, PDGFRB, CSF1R, EPHA8 and KDR and mediates their ubiquitination to terminate signaling (PubMed:15190072, PubMed:18374639, PubMed:21596750). Recognizes membrane-bound HCK, SRC and other kinases of the SRC family and mediates their ubiquitination and degradation (PubMed:11896602). Ubiquitinates EGFR and SPRY2 (PubMed:17094949, PubMed:17974561). 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:40101708). Ubiquitinates NECTIN1 following association between NECTIN1 and herpes simplex virus 1/HHV-1 envelope glycoprotein D, leading to NECTIN1 removal from cell surface (PubMed:28381567). Participates in signal transduction in hematopoietic cells. Plays an important role in the regulation of osteoblast differentiation and apoptosis (PubMed:15190072, PubMed:18374639). Essential for osteoclastic bone resorption (PubMed:14739300). The 'Tyr-731' phosphorylated form induces the activation and recruitment of phosphatidylinositol 3-kinase to the cell membrane in a signaling pathway that is critical for osteoclast function (PubMed:14739300). In association with CBLB, 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. Cell membrane. Cell projection, cilium. Golgi apparatus. Note=Colocalizes with FGFR2 in lipid rafts at the cell membrane

Background

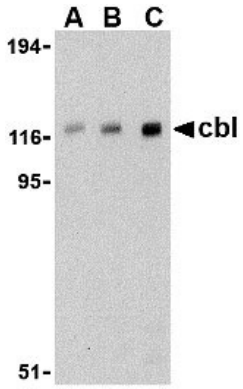
Cbl Antibody: The mammalian cbl family of ubiquitin ligases consists of three homologs known as cbl (also known as c-Cbl), Cbl-B, and Cbl-3 which share highly conserved a tyrosine-kinase-binding domain, linker and RING finger domain in their amino-terminal halves. Similar to other E3 ubiquitin ligases, Cbl catalyzes the transfer of ubiquitin from an E2 or Ubc (ubiquitin-conjugating) enzyme to the e-amino group of a lysine residue of the substrate protein. Cbl acts to negatively regulate many types of cell-surface receptors, including the Syk protein tyrosine kinase family. Cbl is thought to be involved in T- and B-cell signaling, in addition to thymus development. Of the three known homologs in the cbl family, cbl antibody reacts specifically with cbl. Multiple isoforms of cbl have been reported.

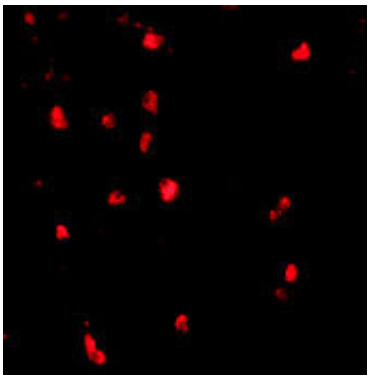
References

Thien CBF and Langdon WY. C-Cbl and Cbl-b ubiquitin ligases: substrate diversity and the negative regulation of signaling responses. Biochem. J. 2005; 391:153-66
Weissman AM. Themes and variations on ubiquitylation. Nat. Rev. Mol. Cell Biol. 2001; 2:169-78.
Swaminathan G and Tsygankov AY. The Cbl family of proteins: ring leaders in regulation of cell signaling. J. Cell. Physiol. 2006; 209:21-43.

Images

Western blot analysis of cbl in Daudi cell lysate with cbl antibody at (A) 0.5, (B) 1, and (C) 2 µg/mL.





Immunofluorescence of cbl in human lymph node tissue with cbl antibody at 20 µg/mL.