

C-CBL Antibody

Purified Mouse Monoclonal Antibody

Catalog # AO1600a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	P22681
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Clone Names	3B12
Isotype	IgG1
Calculated MW	99633
Description	The cbl oncogene was first identified as part of a transforming retrovirus which induces mouse pre-B and pro-B cell lymphomas. As an adaptor protein for receptor protein-tyrosine kinases, it positively regulates receptor protein-tyrosine kinase ubiquitination in a manner dependent upon its variant SH2 and RING finger domains. Ubiquitination of receptor protein-tyrosine kinases terminates signaling by marking active receptors for degradation.
Immunogen	Purified recombinant fragment of human C-CBL expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	867
Other Names	E3 ubiquitin-protein ligase CBL, 6.3.2.-, Casitas B-lineage lymphoma proto-oncogene, Proto-oncogene c-Cbl, RING finger protein 55, Signal transduction protein CBL, CBL, CBL2, RNF55
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	C-CBL Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CBL
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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](#)). 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](#)). 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](#)). May be functionally coupled with the E2 ubiquitin-protein ligase UB2D3. 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

References

1. Blood. 2009 Aug 27;114(9):1859-63. 2. Cell Res. 2009 Aug;19(8):950-61. 3. Nature. 2009 Aug 13;460(7257):904-8.

Images

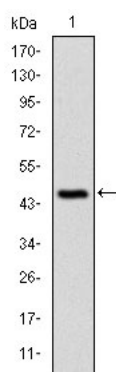


Figure 1: Western blot analysis using C-CBL mAb against human C-CBL (AA: 684-865) recombinant protein. (Expected MW is 44.9 kDa)

Figure 2: Western blot analysis using C-CBL mouse mAb against RAJI (1), RAW264.7 (2), K562 (3), SKBR-3 (4), 3T3-L1 (5), THP-1 (6) and PC-12 (7) cell lysate.

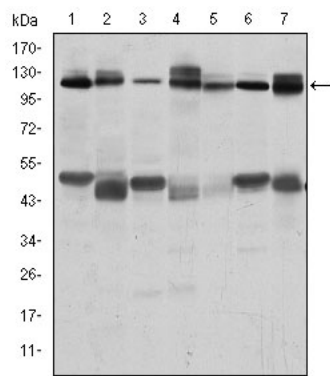


Figure 3: Immunohistochemical analysis of paraffin-embedded ovarian cancer tissues using C-CBL mouse mAb with DAB staining.

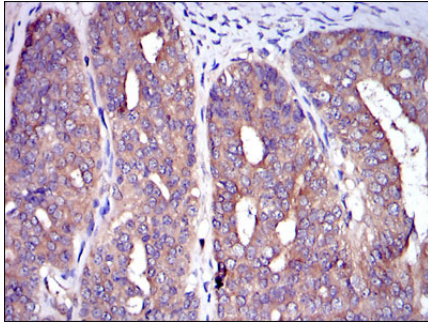


Figure 4: Immunohistochemical analysis of paraffin-embedded bladder cancer tissues using C-CBL mouse mAb with DAB staining.

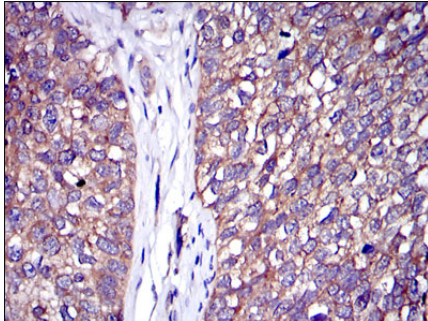


Figure 5: Immunofluorescence analysis of Hela cells using C-CBL mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

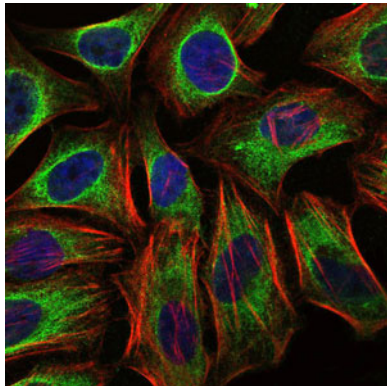
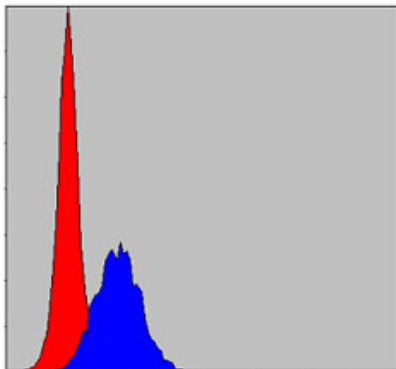


Figure 6: Flow cytometric analysis of MCF-7 cells using C-CBL mouse mAb (blue) and negative control (red).



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