

## BACKGROUND

Cbl has emerged as a novel signal transducing protein downstream of a number of cell surface receptors coupled to tyrosine kinases. Identified as the protein product of the c-Cbl proto-oncogene, the cellular homolog to the transforming gene of a murine retrovirus, Cbl comprises an N-terminal transforming region (Cbl-N), which contains a phosphotyrosine binding (PTB) domain, and a C-terminal modular region (Cbl-C) containing a RING finger motif, a large proline-rich region and a leucine zipper. Deletion of Cbl-C or small deletions N-terminal to the RING finger render Cbl oncogenic, whereas wild type Cbl is non-transforming, even if overexpressed.<sup>1</sup> Cbl serves as a substrate of both receptor and non-receptor tyrosine kinases, and binds to adaptor proteins Grb2, Crk and the p85 subunit of PI-3-kinase and mediates the downstream signaling.<sup>2</sup> On the other hand, acting as an E3 ubiquitin-protein ligase, which accepts ubiquitin from specific E2 ubiquitin-conjugating enzymes, and then transfers it to substrates promoting their degradation by the proteasome, Cbl also 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.<sup>3</sup>

### References:

1. Lupher, M.L. Jr. et al: Int. J. Biochem. Cell Biol. 30:439-44, 1998
2. Smit, L. & Borst, J.: Crit. Rev. Oncog. 8:359-79, 1997
3. Thien, C.B.F. & Langdon, W.Y.: Biochem. J. 391:153-166, 2005

## TECHNICAL INFORMATION

### Source:

c-Cbl Antibody is a mouse monoclonal antibody raised against recombinant human c-Cbl fragments expressed in *E. coli*.

### Specificity and Sensitivity:

This antibody detects c-Cbl proteins in various cell lysate.

**Storage Buffer:** PBS and 30% glycerol

### Storage:

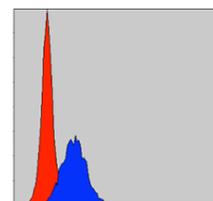
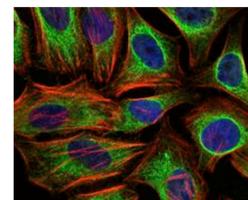
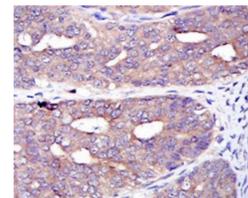
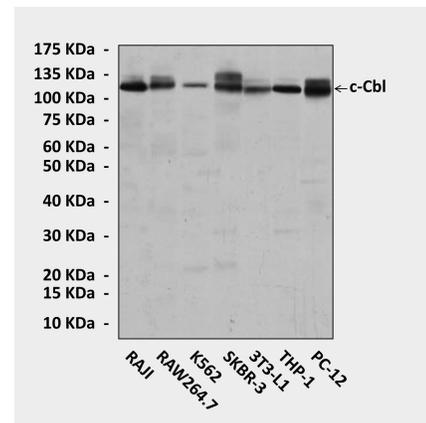
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

## APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	1:50
IHC (Paraffin)	1:50-200
ICC	1:50-200
FACS	1:50-200

\*Optimal dilutions must be determined by end user.

## QUALITY CONTROL DATA



**Top:** Western blot detection of c-Cbl proteins in various cell lysates using c-Cbl Antibody. **Middle, Upper:** It also stains paraffin-embedded human ovarian cancer tissue in IHC analysis. **Middle, Lower:** This antibody stains HeLa cells in confocal immunofluorescent testing (c-Cbl Antibody: Green; Actin filaments: Red; DRAQ5 DNA Dye: Blue). **Bottom:** This antibody detects c-Cbl proteins specifically in MCF7 cells by FACS assay (c-Cbl Antibody: Blue; negative control: Red).

