Revision 1

# Phospho-c-Cbl (Tyr731) Antibody

#3554 Store at -20C

Cell Signaling TECHNOLOGY®

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|---|
| W | H | Endogenous | 120 | Rabbit | #P22681 | 867 |

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

## Specificity/Sensitivity

Phospho-c-Cbl (Tyr731) Antibody detects endogenous levels of c-Cbl only when phosphorylated at tyrosine 731. The antibody does not cross-react with related tyrosine-phosphorylated proteins.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr731 of human c-Cbl. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

The c-Cbl proto-oncogene is a ubiquitously expressed cytoplasmic adaptor protein that is especially predominant in hematopoietic cells (1,2). c-Cbl is rapidly tyrosine-phosphorylated in response to stimulation of a variety of cell-surface receptors and becomes associated with a number of intracellular signaling molecules such as protein tyrosine kinases, phosphatidylinositol-3 kinase, Crk, and 14-3-3 proteins (3,4). c-Cbl possesses a highly conserved amino-terminal phosphotyrosine binding domain (TKB) and a C3HC4 RING finger motif. The TKB recognizes phosphorylated tyrosines on activated receptor tyrosine kinases (RTKs) as well as other nonreceptor tyrosine kinases. The RING finger motif recruits ubiquitin-conjugating enzymes. These two domains are primarily responsible for the ubiquitin ligase activity of c-Cbl and downregulation of RTKs (3). Research studies have indicated that in human cancer tissues, c-Cbl is frequently tyrosine-phosphorylated in a tumor-specific manner (5). Phosphorylation of Tyr731 of c-Cbl provides a docking site for downstream signaling components such as p85 and Fyn (6).

## Background References

1. Blake, T.J. et al. (1991) *Oncogene* 6, 653-657.
2. Thien, C.B. and Langdon, W.Y. (1998) *Immunol. Cell Biol.* 76, 473-482.
3. Christine, B.F. et al. (2001) *Nat. Rev. Mol. Cell Biol.* 2, 294-307.
4. Feshchenko, E.A. et al. (1998) *J. Biol. Chem.* 273, 8323-8331.
5. Kamei, T. et al. (2000) *Int. J. Oncol.* 17, 335-339.
6. Hunter, C. et al. (1999) *J. Biol. Chem.* 274, 2097-2106.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting

## Cross-Reactivity Key

**H:** Human

## Trademarks and Patents



## Limited Uses

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