

p-Cbl (E-10): sc-377571

BACKGROUND

Cbl (also designated the c-Cbl proto-oncogene, E3 ubiquitin-protein ligase CBL, Casitas B-lineage lymphoma proto-oncogene, and RING finger protein 55) has been identified as the cellular homolog of the v-Cbl oncogene isolated from an NFS/N mouse that developed a pre-B cell lymphoma following infection with the replication-competent Cas Br-M murine leukemic virus. c-Cbl is expressed at relatively high levels in a wide range of hematopoietic tumor cell lines as well as in normal tissues such as thymus and testis. The c-Cbl gene product has been identified as a cytoplasmic protein with apparent DNA binding and dimerization domains characteristic of transcription factors. A single c-Cbl locus termed CBL2 has been mapped to human chromosome 11q23. This region of chromosome 11 is involved in translocations and deletions in a broad range of leukemias; c-Cbl has been found to be translocated from chromosome 11 in leukemias with either t(4;11) or t(11;14) abnormalities. Two proteins related to c-Cbl have been identified as Cbl-b (RING finger protein 56) and Cbl-3 (RING finger protein 57). Cbl-b has a proline-rich domain, a nuclear localization signal, a C3HC4 zinc finger and a putative leucine zipper. Cbl-b is expressed in normal and malignant mammary epithelial cells, various normal tissues and hematopoietic tissue and cell lines. Data suggests that Cbl-b encodes a protein that can interact with signal transduction proteins to regulate their function or be regulated by them.

REFERENCES

1. Yunis, J.J. and Brunning, R.D. 1986. Prognostic significance of chromosomal abnormalities in acute leukemias and myelodysplastic syndromes. *Clin. Haematol.* 15: 597-620.
2. Langdon, W.Y., et al. 1989. v-Cbl, an oncogene from a dual-recombinant murine retrovirus that induces early B-lineage lymphomas. *Proc. Natl. Acad. Sci. USA* 86: 1168-1172.
3. Regnier, D.C., et al. 1989. Identification of two murine loci homologous to the v-Cbl oncogene. *J. Virol.* 63: 3678-3682.

CHROMOSOMAL LOCATION

Genetic locus: CBL (human) mapping to 11q23.3; Cbl (mouse) mapping to 9 A5.1.

SOURCE

p-Cbl (E-10) is a mouse monoclonal antibody raised against a short amino acid sequence containing Tyr 700 phosphorylated Cbl of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377571 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

p-Cbl (E-10) is recommended for detection of Tyr 700 phosphorylated Cbl of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

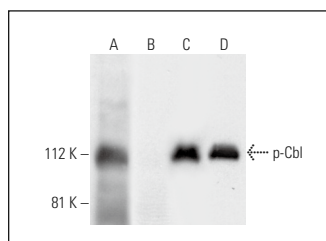
p-Cbl (E-10) is also recommended for detection of correspondingly phosphorylated Cbl in additional species, including porcine.

Suitable for use as control antibody for Cbl siRNA (h): sc-29242, Cbl siRNA (m): sc-29949, Cbl shRNA Plasmid (h): sc-29242-SH, Cbl shRNA Plasmid (m): sc-29949-SH, Cbl shRNA (h) Lentiviral Particles: sc-29242-V and Cbl shRNA (m) Lentiviral Particles: sc-29949-V.

Molecular Weight of p-Cbl: 120 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

DATA



Western blot analysis of Cbl phosphorylation in untreated (A,C) and lambda protein phosphatase (sc-200312A) treated (B,D) Jurkat whole cell lysates. Antibodies tested include p-Cbl (E-10): sc-377571 (A,B) and Cbl (A-9): sc-1651 (C,D).

SELECT PRODUCT CITATIONS

1. Kim, Y., et al. 2015. Differential effects of tyrosine kinase inhibitors on normal and oncogenic EGFR signaling and downstream effectors. *Mol. Cancer Res.* 13: 765-774.
2. Zhu, L.L., et al. 2016. E3 ubiquitin ligase Cbl-b negatively regulates C-type lectin receptor-mediated antifungal innate immunity. *J. Exp. Med.* 213: 1555-1570.
3. Qiu, Z., et al. 2022. Puerarin specifically disrupts osteoclast activation via blocking integrin-β3 Pyk2/Src/Cbl signaling pathway. *J. Orthop. Translat.* 33: 55-69.
4. Hernández-Cano, L., et al. 2022. New functions of C3G in platelet biology: contribution to ischemia-induced angiogenesis, tumor metastasis and TPO clearance. *Front. Cell Dev. Biol.* 10: 1026287.

RESEARCH USE

For research use only, not for use in diagnostic procedures.