

# Cbl-b (H-454): sc-1705

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: CBLB (human) mapping to 3q13.11; Cblb (mouse) mapping to 16 B5.

## SOURCE

Cbl-b (H-454) is a rabbit polyclonal antibody raised against amino acids 29-483 of Cbl-b of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as fluorescein (sc-1705 FITC) or rhodamine (sc-1705 TRITC) conjugates for immunofluorescence, 200 µg/1 ml.

## APPLICATIONS

Cbl-b (H-454) is recommended for detection of Cbl-b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Cbl-b (H-454) is also recommended for detection of Cbl-b in additional species, including equine, canine, bovine, porcine and avian.

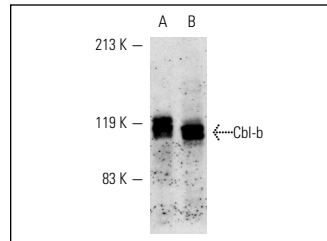
Suitable for use as control antibody for Cbl-b siRNA (h): sc-29950, Cbl-b siRNA (m): sc-29951, Cbl-b shRNA Plasmid (h): sc-29950-SH, Cbl-b shRNA Plasmid (m): sc-29951-SH, Cbl-b shRNA (h) Lentiviral Particles: sc-29950-V and Cbl-b shRNA (m) Lentiviral Particles: sc-29951-V.

Molecular Weight of Cbl-b: 115-120 kDa.

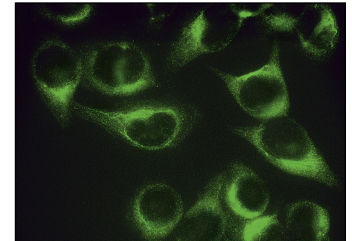
## STORAGE

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

## DATA



Cbl-b (H-454): sc-1705. Western blot analysis of Cbl-b expression in SK-BR-3 (A) and 3611-RF (B) whole cell lysates.



Cbl-b (H-454): sc-1705. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Widmann, C., et al. 1998. Caspase-dependent cleavage of signaling proteins during apoptosis. A turn-off mechanism for anti-apoptotic signals. *J. Biol. Chem.* 273: 7141-7147.
- Ettenberg, S., et al. 2001. Cbl-b-dependent coordinated degradation of the epidermal growth factor receptor signaling complex. *J. Biol. Chem.* 276: 27677-27684.
- Corsois, L., et al. 2002. Association of a new c-Cbl related protein with the very first stages of apoptosis induction. *Cancer Detect. Prev.* 26: 93-104.
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- Heissmeyer, V., et al. 2004. Calcineurin imposes T cell unresponsiveness through targeted proteolysis of signaling proteins. *Nat. Immunol.* 3: 255-265.
- Davies, G.C. 2004. Cbl-b interacts with ubiquitinated proteins; differential functions of the UBA domains of c-Cbl and Cbl-b. *Oncogene* 23: 7104-7115.
- Gesbert, F., et al. 2005. Ubiquitination of the common cytokine receptor  $\gamma$ c and regulation of expression by an ubiquitination/deubiquitination machinery. *Biochem. Biophys. Res. Commun.* 334: 474-480.
- Davies, G.C., et al. 2006. EGFRvIII undergoes activation-dependent down-regulation mediated by the Cbl proteins. *Oncogene* 25: 6497-6509.
- Balachandran, P., et al. 2007. The ubiquitin ligase Cbl-b limits *Pseudomonas aeruginosa* exotoxin T-mediated virulence. *J. Clin. Invest.* 117: 419-427.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.