

Cbl-b (G-1): sc-8006

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 (G-1) is a mouse monoclonal antibody raised against amino acids 29-483 mapping at the N-terminus of Cbl-b of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cbl-b (G-1) is available conjugated to agarose (sc-8006 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8006 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8006 PE), fluorescein (sc-8006 FITC), Alexa Fluor® 488 (sc-8006 AF488), Alexa Fluor® 546 (sc-8006 AF546), Alexa Fluor® 594 (sc-8006 AF594) or Alexa Fluor® 647 (sc-8006 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8006 AF680) or Alexa Fluor® 790 (sc-8006 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

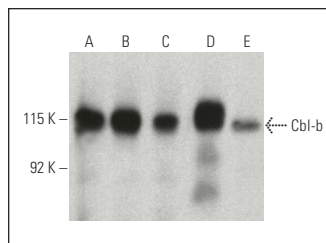
Cbl-b (G-1) is recommended for detection of Cbl-b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Cbl-b siRNA (h): sc-29950, Cbl-b siRNA (m): sc-29951, Cbl-b siRNA (r): sc-63343, Cbl-b shRNA Plasmid (h): sc-29950-SH, Cbl-b shRNA Plasmid (m): sc-29951-SH, Cbl-b shRNA Plasmid (r): sc-63343-SH, Cbl-b shRNA (h) Lentiviral Particles: sc-29950-V, Cbl-b shRNA (m) Lentiviral Particles: sc-29951-V and Cbl-b shRNA (r) Lentiviral Particles: sc-63343-V.

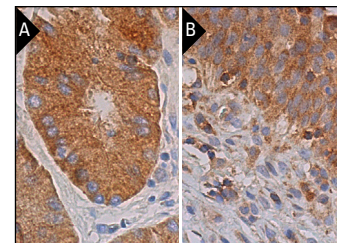
Molecular Weight of Cbl-b: 115-120 kDa.

Positive Controls: CTLL-2 cell lysate: sc-2242, NAMALWA cell lysate: sc-2234 or BJAB whole cell lysate: sc-2207.

DATA



Cbl-b (G-1): sc-8006. Western blot analysis of Cbl-b expression in BJAB (A), NAMALWA (B), Jurkat (C), CTLL-2 (D) and TK-1 (E) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Cbl-b (G-1): sc-8006. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells (B).

SELECT PRODUCT CITATIONS

- Bachmaier, K., et al. 2000. Negative regulation of lymphocyte activation and autoimmunity by the molecular adaptor Cbl-b. *Nature* 403: 211-216.
- Xu, L., et al. 2017. DR5-Cbl-b/c-Cbl-TRAF2 complex inhibits TRAIL-induced apoptosis by promoting TRAF2-mediated polyubiquitination of caspase-8 in gastric cancer cells. *Mol. Oncol.* 11: 1733-1751.
- Lee, G.W., et al. 2018. The E3 ligase c-Cbl inhibits cancer cell migration by neddylation of the proto-oncogene c-Src. *Oncogene* 37: 5552-5568.
- Liyasova, M.S., et al. 2019. Cbl interacts with multiple E2s *in vitro* and in cells. *PLoS ONE* 14: e0216967.
- Kuga, T., et al. 2020. Depletion of Csk preferentially reduces the protein level of LynA in a Cbl-dependent manner in cancer cells. *Sci. Rep.* 10: 7621.

RESEARCH USE

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