

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

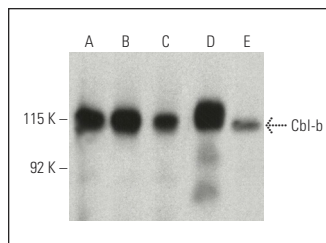
Cbl-b (G-1) is recommended for detection of Cbl-b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500),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

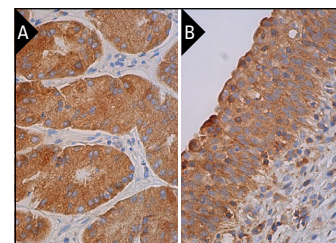
Molecular Weight of Cbl-b: 115-120 kDa.

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

1. Bachmaier, K., et al. 2000. Negative regulation of lymphocyte activation and autoimmunity by the molecular adaptor Cbl-b. *Nature* 403: 211-216.
2. 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.
3. 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.
4. Liyasova, M.S., et al. 2019. Cbl interacts with multiple E2s *in vitro* and in cells. *PLoS ONE* 14: e0216967.
5. 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.