

Cbl-b (B-5): sc-376409

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 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 953-982 at the C-terminus of Cbl-b of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cbl-b (B-5) is available conjugated to agarose (sc-376409 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376409 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376409 PE), fluorescein (sc-376409 FITC), Alexa Fluor® 488 (sc-376409 AF488), Alexa Fluor® 546 (sc-376409 AF546), Alexa Fluor® 594 (sc-376409 AF594) or Alexa Fluor® 647 (sc-376409 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376409 AF680) or Alexa Fluor® 790 (sc-376409 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376409 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

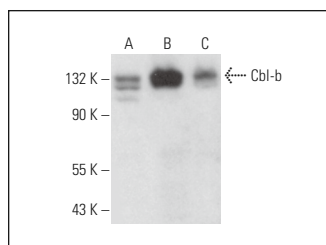
Cbl-b (B-5) is recommended for detection of Cbl-b of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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.

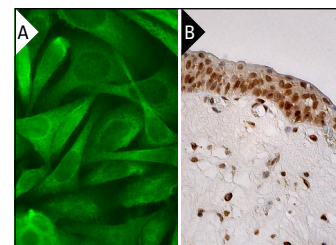
Molecular Weight of Cbl-b: 115-120 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, JM1 whole cell lysate: sc-364233 or U-87 MG cell lysate: sc-2411.

DATA



Cbl-b (B-5): sc-376409. Western blot analysis of Cbl-b expression in BJAB (A), JM1 (B) and U-87 MG (C) whole cell lysates.



Cbl-b (B-5) Alexa Fluor® 488: sc-376409 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic and nuclear localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (A). Cbl-b (B-5): sc-376409. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear and cytoplasmic staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

1. Zhang, L., et al. 2015. The E3 ubiquitin ligase Cbl-b improves the prognosis of RANK positive breast cancer patients by inhibiting RANKL-induced cell migration and metastasis. *Oncotarget* 6: 22918-22933.
2. Li, P., et al. 2018. Expression and comparison of Cbl-b in lung squamous cell carcinoma and adenocarcinoma. *Med. Sci. Monit.* 24: 623-635.
3. Kwon, J.H., et al. 2019. Ascorbic acid improves thrombotic function of platelets during living donor liver transplantation by modulating the function of the E3 ubiquitin ligases c-Cbl and Cbl-b. *J. Int. Med. Res.* 47: 1856-1867.
4. Ju, H., et al. 2020. TLR4 activation leads to anti-EGFR therapy resistance in head and neck squamous cell carcinoma. *Am. J. Cancer Res.* 10: 454-472.

RESEARCH USE

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