

Cbl-b siRNA (h): sc-29950

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

- 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.
- 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: CBLB (human) mapping to 3q13.11.

PRODUCT

Cbl-b siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Cbl-b shRNA Plasmid (h): sc-29950-SH and Cbl-b shRNA (h) Lentiviral Particles: sc-29950-V as alternate gene silencing products.

For independent verification of Cbl-b (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-29950A, sc-29950B and sc-29950C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Cbl-b siRNA (h) is recommended for the inhibition of Cbl-b expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

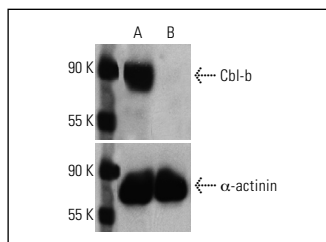
GENE EXPRESSION MONITORING

Cbl-b (G-1): sc-8006 is recommended as a control antibody for monitoring of Cbl-b gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cbl-b gene expression knockdown using RT-PCR Primer: Cbl-b (h)-PR: sc-29950-PR (20 μ l, 503 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



Cbl-b siRNA (h): sc-29950. Western blot analysis of Cbl-b expression in non-transfected control (A) and Cbl-b siRNA transfected (B) HeLa cells. Blot probed with Cbl-b (G-1): sc-8006. α -actinin (H-2): sc-17829 used as specificity and loading control.

SELECT PRODUCT CITATIONS

- Lock, P., et al. 2006. Spred-2 steady-state levels are regulated by phosphorylation and Cbl-mediated ubiquitination. *Biochem. Biophys. Res. Commun.* 351: 1018-1023.
- Palrasu, M., et al. 2020. Bacterial CagA protein compromises tumor suppressor mechanisms in gastric epithelial cells. *J. Clin. Invest.* 130: 2422-2434.

RESEARCH USE

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