

Cables1 (M-19): sc-14794

BACKGROUND

Normal Abl function is essential for humans because Philadelphia chromosome translocation involving the ABL gene causes chronic myelogenous leukemia. Abl associates with a broad range of targets and appears to function in various signaling pathways. Cables, a 568 amino-acid protein, links Abl to cyclin-dependent kinase 5 (Cdk5). Cables bound to Cdk5 functions as a substrate for phosphorylation by the Cdk5/p35 kinase. Cables contains an area of weak homology to cyclin A and cyclin C. In addition to its C-terminal Cdk5 binding domain, Cables also has six potential SH3 binding motifs (PXXP) clustered around the amino terminus, two of which are similar to motifs known to bind the Abl SH3 domain. Cables forms a trimolecular complex with Cdk5 and Abl *in vivo*. All three proteins colocalize within cortical axons, particularly in their growth cones. Cables and Abl may function as adaptor or scaffolding proteins to bind to Cdk5 and control its subcellular location in the neuron.

REFERENCES

- Oda, T., Kujovich, J., Reis, M., Newman, B. and Druker, B.J. 1997. Identification and characterization of two novel SH2 domain-containing proteins from a yeast two hybrid screen with the Abl tyrosine kinase. *Oncogene* 15: 1255-1262.
- Van Etten, R.A. 1999. Cycling, stressed-out and nervous: cellular functions of c-Abl. *Trends Cell Biol.* 9: 179-186.
- Till, J.H., Chan, P.M. and Miller, W.T. 1999. Engineering the substrate specificity of the Abl tyrosine kinase. *J. Biol. Chem.* 274: 4995-5003.
- Cowan, C.A. and Henkemeyer, M. 2000. More Cables to Abl. *Neuron* 26: 543-550.
- Shishido, T., Akagi, T., Ouchi, T., Georgescu, M.M., Langdon, W.Y. and Hanafusa, H. 2000. The kinase-deficient Src acts as a suppressor of the Abl kinase for Cbl phosphorylation. *Proc. Natl. Acad. Sci. USA* 97: 6439-6444.
- Zukerberg, L.R., Patrick, G.N., Nikolic, M., Humbert, S., Wu, C., Lanier, L.M., Gertler, F.B., Vidal, M., Van Etten, R.A. and Tsai, L. 2000. Cables links Cdk5 and c-Abl and facilitates Cdk5 tyrosine phosphorylation, kinase up-regulation, and neurite outgrowth. *Neuron* 26: 633-646.

CHROMOSOMAL LOCATON

Genetic locus: CABLES1 (human) mapping to 18q11.2; Cables1 (mouse) mapping to 18 A1.

SOURCE

Cables1 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Cables1 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-14794 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Cables1 (M-19) is recommended for detection of cables of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Cables1 (M-19) is also recommended for detection of Cables1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Cables1 siRNA (h): sc-41913, Cables1 siRNA (m): sc-41914, Cables1 shRNA Plasmid (h): sc-41913-SH, Cables1 shRNA Plasmid (m): sc-41914-SH, Cables1 shRNA (h) Lentiviral Particles: sc-41913-V and Cables1 shRNA (m) Lentiviral Particles: sc-41914-V.

Molecular Weight of human Cables1: 68 kDa

Molecular Weight of mouse Cables1: 61 kDa

Positive Controls: Mouse heart extract: sc-2254 or rat heart extract: sc-2393.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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


 MONOS
 Satisfation
 Guaranteed

Try **Cables1 (D-10): sc-374316**, our highly recommended monoclonal alternative to Cables1 (M-19).