SANTA CRUZ BIOTECHNOLOGY, INC.

COTL1 siRNA (m): sc-142523

BACKGROUND

COTL1 (coactosin-like 1), also known as CLP, is a 142 amino acid cytoplasmic and cytoskeletal protein that belongs to the actin-binding proteins ADF family and coactosin subfamily. Widely expressed, COTL1 was first identified in slime mold and is found at highest levels in kidney, placenta, lung and peripheral blood leukocytes, with low levels found in pancreas, liver and brain. COTL1 is one of many proteins that participate in regulation of Actin's cytoskeleton through a calcium dependent mechanism, but has not been shown to have a direct effect on Actin depolymerization. COTL1 contains one ADF-H domain and interacts with 5-LO (5-lipoxygenase), an enzyme that plays a role in the biosynthesis of leukotriene and is expressed in multiple types of leukocytes. The gene encoding COTL1 maps to human chromosome 16q24.1.

REFERENCES

1. Chen, K.S., et al. 1997. Homologous recombination of a flanking repeat gene cluster is a mechanism for a common contiguous gene deletion syndrome. Nat. Genet. 17: 154-163.
2. Provost, P., et al. 1999. Interaction of 5-lipoxygenase with cellular proteins. Proc. Natl. Acad. Sci. USA 96: 1881-1885.
3. Provost, P., et al. 2001. Coactosin-like protein, a human F-actin-binding protein: critical role of lysine-75. Biochem. J. 359: 255-263.
4. Provost, P., et al. 2001. 5-Lipoxygenase interacts with coactosin-like protein. J. Biol. Chem. 276: 16520-16527.
5. Doucet, J., et al. 2002. Molecular cloning and functional characterization of mouse coactosin-like protein. Biochem. Biophys. Res. Commun. 290: 783-789.
6. Rakonjac, M., et al. 2006. Coactosin-like protein supports 5-lipoxygenase enzyme activity and up-regulates leukotriene A4 production. Proc. Natl. Acad. Sci. USA 103: 13150-13155.
7. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 606748. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Cotl1 (mouse) mapping to 8 E1.

PRODUCT

COTL1 siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see COTL1 shRNA Plasmid (m): sc-142523-SH and COTL1 shRNA (m) Lentiviral Particles: sc-142523-V as alternate gene silencing products.

For independent verification of COTL1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-142523A, sc-142523B and sc-142523C.

RESEARCH USE

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

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

COTL1 siRNA (m) is recommended for the inhibition of COTL1 expression in mouse 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 µM in 66 µl. 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor COTL1 gene expression knockdown using RT-PCR Primer: COTL1 (m)-PR: sc-142523-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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