SANTA CRUZ BIOTECHNOLOGY, INC.

CLP36 siRNA (h): sc-72927

BACKGROUND

CLP36, also known as PDLIM1, CLIM1 or Elfin, is a 329 amino acid cytoplasmic protein that associates with Actin stress fibers at the cytoskeleton. Expressed at high levels in skeletal muscle and heart and at lower levels in colon, small intestine, spleen, lung, placenta, kidney, liver, thymus and pancreas, CLP36 functions as a cytoskeletal protein that is thought to act as an adaptor, bringing target proteins to the cytoskeleton. Specifically, CLP36 interacts with Clik1 (a kinase) and recruits Clik1 to α-actinin-1, thereby facilitating the association of Clik1 with Actin stress fibers. CLP36 contains one PDZ domain and one LIM zinc-binding domain through which it conveys its protein-protein binding capabilities. Human CLP36 shares 88% sequence similarity with its rat counterpart, suggesting a conserved function between species.

REFERENCES

1. Bauer, K., et al. 2000. Human CLP36, a PDZ-domain and LIM-domain protein, binds to α-actinin-1 and associates with actin filaments and stress fibers in activated platelets and endothelial cells. Blood 96: 4236-4245.
2. Vallenius, T., et al. 2000. CLP-36 PDZ-LIM protein associates with nonmuscle α-actinin-1 and α-actinin-4. J. Biol. Chem. 275: 11100-11105.
3. Kotaka, M., et al. 2000. Interaction of hCLIM1, an enigma family protein, with α-actinin 2. J. Cell. Biochem. 78: 558-565.
4. Vallenius, T., et al. 2002. Clik1: a novel kinase targeted to actin stress fibers by the CLP-36 PDZ-LIM protein. J. Cell Sci. 115: 2067-2073.
5. Miehe, U., et al. 2006. Expression of the actin stress fiber-associated protein CLP36 in the human placenta. Histochem. Cell Biol. 126: 465-471.
6. Tran, Y.H., et al. 2006. Spliced isoforms of LIM-domain-binding protein (CLIM/NLI/Ldb) lacking the LIM-interaction domain. J. Biochem. 140: 105-119.
7. Kashani, A.H., et al. 2006. Calcium activation of the LMO4 transcription complex and its role in the patterning of thalamocortical connections. J. Neurosci. 26: 8398-8408.

CHROMOSOMAL LOCATION

Genetic locus: PDLIM1 (human) mapping to 10q23.33.

PRODUCT

CLP36 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CLP36 shRNA Plasmid (h): sc-72927-SH and CLP36 shRNA (h) Lentiviral Particles: sc-72927-V as alternate gene silencing products.

For independent verification of CLP36 (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-72927A, sc-72927B and sc-72927C.

PROTOCOLS

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

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

CLP36 siRNA (h) is recommended for the inhibition of CLP36 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 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.

GENE EXPRESSION MONITORING

CLP36 (B-9): sc-393084 is recommended as a control antibody for monitoring of CLP36 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CLP36 gene expression knockdown using RT-PCR Primer: CLP36 (h)-PR: sc-72927-PR (20 µl, 545 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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