

SI-CLP siRNA (m): sc-153457

BACKGROUND

SI-CLP (stabilin-1 interacting chitinase-like), also known as CHID1 (Chitinase domain-containing protein 1), is a 393 amino acid secreted protein that belongs to the glycosyl hydrolase 18 family. SI-CLP interacts with STAB1 and localizes to lysosome in cells of monocytic, T, B and epithelial origin. SI-CLP is a saccharide- and LPS-binding protein with possible roles in pathogen sensing and endotoxin neutralization. Ligand-binding specificity relates to the length of the oligosaccharides, with preference for chitotetraose (*in vitro*). The SI-CLP protein is up-regulated by IL4/interleukin-4 and dexamethasone in the macrophages, and is also up-regulated by glucocorticoid. Existing as three alternatively spliced isoforms, the SI-CLP gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, fruit fly, mosquito, *A. thaliana* and rice, and maps to human chromosome 11p15.5.

REFERENCES

1. Kzyshkowska, J., et al. 2006. Novel stabilin-1 interacting chitinase-like protein (SI-CLP) is up-regulated in alternatively activated macrophages and secreted via lysosomal pathway. *Blood* 107: 3221-3228.
2. Funkhouser, J.D., et al. 2007. Chitinase family GH18: evolutionary insights from the genomic history of a diverse protein family. *BMC Evol. Biol.* 7: 96.
3. Zhang, J., et al. 2009. A novel GGA-binding site is required for intracellular sorting mediated by stabilin-1. *Mol. Cell. Biol.* 29: 6097-6105.
4. Meng, G., et al. 2009. Crystallization and preliminary X-ray crystallographic studies on SI-CLP, a novel human Glyco_18 domain-containing protein. *Protein Pept. Lett.* 16: 336-338.
5. Nakabachi, A., et al. 2010. Chitinase-like proteins encoded in the genome of the pea aphid, *Acyrtosiphon pisum*. *Insect Mol. Biol.* 19: 175-185.
6. Meng, G., et al. 2010. Structure of human stabilin-1 interacting chitinase-like protein (SI-CLP) reveals a saccharide-binding cleft with lower sugar-binding selectivity. *J. Biol. Chem.* 285: 39898-39904.
7. Huang, Q.S., et al. 2012. The GH18 family of Chitinases: their domain architectures, functions, and evolutions. *Glycobiology* 22: 23-34.

CHROMOSOMAL LOCATION

Genetic locus: Chid1 (mouse) mapping to 7 F5.

PRODUCT

SI-CLP siRNA (m) is a target-specific 19-25 nt siRNA 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 SI-CLP shRNA Plasmid (m): sc-153457-SH and SI-CLP shRNA (m) Lentiviral Particles: sc-153457-V as alternate gene silencing products.

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 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

SI-CLP siRNA (m) is recommended for the inhibition of SI-CLP 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 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

SI-CLP (A-1): sc-514286 is recommended as a control antibody for monitoring of SI-CLP 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 SI-CLP gene expression knockdown using RT-PCR Primer: SI-CLP (m)-PR: sc-153457-PR (20 μ l). 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.