

## LZTR1 siRNA (h): sc-75720

### BACKGROUND

LZTR1, leucine-zipper-like transcriptional regulator 1, is a member of the BTB-kelch superfamily. LZTR1 contains two BTB (POZ) domains and six Kelch repeats. The BTB (broad-complex, tramtrack and bric a brac) domain, also known as the POZ (POxvirus and zinc finger) domain, is an N-terminal homo-dimerization domain that contains multiple copies of kelch repeats and/or C<sub>2</sub>H<sub>2</sub>-type zinc fingers. Proteins that contain BTB domains are thought to be involved in transcriptional regulation via control of chromatin structure and function. LZTR1 is believed to function as a transcriptional regulator during embryogenesis. LZTR1 is expressed in fetal brain, heart, kidney, liver and lung and is found exclusively on the cytoplasmic surface of the Golgi network. LZTR1 likely contributes to the etiology of velocardiofacial/DiGeorge syndrome, as the LZTR1 gene lies within a chromosomal deletion region associated with the disease.

### REFERENCES

1. Torg, J.S., DiGeorge, A.M., Kirkpatrick, J.A. and Trujillo, M.M. 1969. Hereditary multicentric osteolysis with recessive transmission: a new syndrome. *J. Pediatr.* 75: 243-252.
2. Dodson, W.E., Alexander, D., Al-Aish, M. and De La Cruz, F. 1969. The DiGeorge syndrome. *Lancet* 1: 574-575.
3. Bardwell, V.J. and Treisman, R. 1994. The POZ domain: a conserved protein-protein interaction motif. *Genes Dev.* 8: 1664-1677.
4. Zollman, S., Godt, D., Prive, G.G., Couderc, J.L. and Laski, F.A. 1994. The BTB domain, found primarily in zinc finger proteins, defines an evolutionarily conserved family that includes several developmentally regulated genes in *Drosophila*. *Proc. Natl. Acad. Sci. USA* 91: 10717-10721.
5. Ahmad, K.F., Engel, C.K. and Prive, G.G. 1998. Crystal structure of the BTB domain from PLZF. *Proc. Natl. Acad. Sci. USA* 95: 12123-12128.
6. Rual, J.F., Venkatesan, K., Hao, T., Hirozane-Kishikawa, T., Dricot, A., Li, N., Berriz, G.F., Gibbons, F.D., Dreze, M., Ayivi-Guedehoussou, N., Klitgord, N., Simon, C., Boxem, M., Milstein, S., et al. 2005. Towards a proteome-scale map of the human protein-protein interaction network. *Nature* 437: 1173-1178.

### CHROMOSOMAL LOCATION

Genetic locus: LZTR1 (human) mapping to 22q11.21.

### PRODUCT

LZTR1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LZTR1 shRNA Plasmid (h): sc-75720-SH and LZTR1 shRNA (h) Lentiviral Particles: sc-75720-V as alternate gene silencing products.

For independent verification of LZTR1 (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-75720A, sc-75720B and sc-75720C.

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

### APPLICATIONS

LZTR1 siRNA (h) is recommended for the inhibition of LZTR1 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  $\mu$ M in 66  $\mu$ 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

LZTR1 (E-12): sc-390166 is recommended as a control antibody for monitoring of LZTR1 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

### RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LZTR1 gene expression knockdown using RT-PCR Primer: LZTR1 (h)-PR: sc-75720-PR (20  $\mu$ 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.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.