

LBXCOR1 siRNA (h): sc-90148

BACKGROUND

LBXCOR1 (ladybird homeobox corepressor 1), also known as SKOR1 (SKI family transcriptional corepressor 1), CORL1 or fussel-15 (functional Smad-suppressing element on chromosome 15), is a 965 amino acid protein belonging to the SKI family. Localizing to nucleus, LBXCOR1 is highly expressed in the central nervous system (CNS) as well as developing spinal cord and adult brain and testis. LBXCOR1 contains a CH1 domain which is required for transcriptional repression and also acts as a transcriptional co-repressor of LBX1. LBXCOR1 additionally interacts with SMAD1, SMAD2 and SMAD3 and inhibits BMP signaling. Existing as three alternatively spliced isoforms, the gene encoding LBXCOR1 maps to human chromosome 15q23. Encoding more than 700 genes, chromosome 15 is made up of approximately 106 million base pairs and consists of about 3% of the human genome. Angelman and Prader-Willi syndromes, as well as Tay-Sachs disease and Marfan syndrome, are all associated with mutations to chromosome 15.

REFERENCES

1. Frisch, A., Colombo, R., Michaelovsky, E., Karpati, M., Goldman, B. and Peleg, L. 2004. Origin and spread of the 1278insTATC mutation causing Tay-Sachs disease in Ashkenazi Jews: genetic drift as a robust and parsimonious hypothesis. *Hum. Genet.* 114: 366-376.
2. Mizuhara, E., Nakatani, T., Minaki, Y., Sakamoto, Y. and Ono, Y. 2005. Corl1, a novel neuronal lineage-specific transcriptional corepressor for the homeodomain transcription factor Lbx1. *J. Biol. Chem.* 280: 3645-3655.
3. Zody, M.C., Garber, M., Sharpe, T., Young, S.K., Rowen, L., O'Neill, K., Whittaker, C.A., Kamal, M., Chang, J.L., Cuomo, C.A., Dewar, K., Fitzgerald, M.G., Kodira, C.D., Madan, A., Qin, S., Yang, X., Abbasi, N., et al. 2006. Analysis of the DNA sequence and duplication history of human chromosome 15. *Nature* 440: 671-675.
4. Lalande, M. and Calciano, M.A. 2007. Molecular epigenetics of Angelman syndrome. *Cell. Mol. Life Sci.* 64: 947-960.
5. Makoff, A.J. and Flomen, R.H. 2007. Detailed analysis of 15q11-q14 sequence corrects errors and gaps in the public access sequence to fully reveal large segmental duplications at breakpoints for Prader-Willi, Angelman, and inv dup(15) syndromes. *Genome Biol.* 8: R114.
6. Arndt, S., Poser, I., Moser, M. and Bosserhoff, A.K. 2007. Fussel-15, a novel Ski/Sno homolog protein, antagonizes BMP signaling. *Mol. Cell. Neurosci.* 34: 603-611.
7. Glassmann, A., Topka, S., Wang-Eckardt, L., Anders, S., Weisheit, G., Endl, E., Zimmer, A. and Schilling, K. 2009. Basic molecular fingerprinting of immature cerebellar cortical inhibitory interneurons and their precursors. *Neuroscience* 159: 69-82.
8. Sinnema, M., Boer, H., Collin, P., Maaskant, M.A., van Roozendaal, K.E., Schrandt-Stumpel, C.T. and Curfs, L.M. 2011. Psychiatric illness in a cohort of adults with Prader-Willi syndrome. *Res. Dev. Disabil.* 32: 1729-1735.

CHROMOSOMAL LOCATION

Genetic locus: SKOR1 (human) mapping to 15q23.

PRODUCT

LBXCOR1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LBXCOR1 shRNA Plasmid (h): sc-90148-SH and LBXCOR1 shRNA (h) Lentiviral Particles: sc-90148-V as alternate gene silencing products.

For independent verification of LBXCOR1 (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-90148A, sc-90148B and sc-90148C.

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

LBXCOR1 siRNA (h) is recommended for the inhibition of LBXCOR1 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LBXCOR1 gene expression knockdown using RT-PCR Primer: LBXCOR1 (h)-PR: sc-90148-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.

PROTOCOLS

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