SANTA CRUZ BIOTECHNOLOGY, INC.

Xlr siRNA (m): sc-155379

BACKGROUND

Xlr proteins are located in the cell nucleus and expression is highly correlated with characteristics of a mature phenotype in B lymphoid cells. Certain members of the Xlr gene family are closely linked to the murine X-linked immune deficiency (xid) mutation. The Xlr gene family encodes RNA transcripts specific to late-stage T and B cells. It is suggested that the Xlr family of proteins may provide a useful marker for studies on chromatin condensation or DNA recombination in oocytes. In addition, because of the localization of the Xlr gene family on the mouse X chromosome, the human equivalent of Xlr is a candidate gene for premature ovarian failure. Xlr4b (X-linked lymphocyte-regulated 4b), also known as Xlr4, is a 215 amino acid x-linked mouse protein that, like other x-linked proteins, plays a crucial role in mental development and proper mental functioning.

REFERENCES

1. Cohen, D.I., Hedrick, S.M., Nielsen, E.A., D'Eustachio, P., Ruddle, F., Steinberg, A.D., Paul, W.E. and Davis, M.M. 1985. Isolation of a cDNA clone corresponding to an X-linked gene family (XLR) closely linked to the murine immunodeficiency disorder xid. Nature 314: 369-372.
2. Siegel, J.N., Turner, C.A., Klinman, D.M., Wilkinson, M., Steinberg, A.D., MacLeod, C.L., Paul, W.E., Davis, M.M. and Cohen, D.I. 1987. Sequence analysis and expression of an X-linked, lymphocyte-regulated gene family (XLR). J. Exp. Med. 166: 1702-1715.
3. Garchon, H.J., Loh, E., Ho, W.Y., Amar, L., Avner, P. and Davis, M.M. 1989. The XLR sequence family: dispersion on the X and Y chromosomes of a large set of closely related sequences, most of which are pseudogenes. Nucleic Acids Res. 17: 9871-9888.
4. Mulligan, S.P., Wills, E.J. and Young, G.A. 1990. Exercise-induced CD8 lymphocytosis: a phenomenon associated with large granular lymphocyte leukaemia. Br. J. Haematol. 75: 175-180.
5. Garchon, H.J. 1991. The Xlr (X-linked lymphocyte regulated) gene family (a candidate locus for an X-linked primary immune deficiency). Immunodefic Rev. 2: 283-302.
6. Escalier, D., Eloy, L. and Garchon, H.J. 2002. Sex-specific gene expression during meiotic prophase I: Xlr (X linked, lymphocyte regulated), not its male homologue Xmr (Xlr related, meiosis regulated), is expressed in mouse oocytes. Biol. Reprod. 67: 1646-1652.
7. Raefski, A.S. and O'Neill, M.J. 2005. Identification of a cluster of X-linked imprinted genes in mice. Nat. Genet. 37: 620-624.
8. Davies, W., Isles, A., Smith, R., Karunadasa, D., Burrmann, D., Humby, T., Ojarikre, O., Biggin, C., Skuse, D., Burgoyne, P. and Wilkinson, L. 2005. Xlr3b is a new imprinted candidate for X-linked parent-of-origin effects on cognitive function in mice. Nat. Genet. 37: 625-629.
9. Wu, F., Lee, S., Schumacher, M., Jun, A. and Chakravarti, S. 2008. Differential gene expression patterns of the developing and adult mouse cornea compared to the lens and tendon. Exp. Eye Res. 87: 214-225.

CHROMOSOMAL LOCATION

Genetic locus: Xlr (mouse) mapping to X A5.

PRODUCT

Xlr siRNA (m) is a pool of 2 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 Xlr shRNA Plasmid (m): sc-155379-SH and Xlr shRNA (m) Lentiviral Particles: sc-155379-V as alternate gene silencing products.

For independent verification of Xlr (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-155379A and sc-155379B.

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

Xlr siRNA (m) is recommended for the inhibition of Xlr 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 Xlr gene expression knockdown using RT-PCR Primer: Xlr (m)-PR: sc-155379-PR (20 µl). 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.