SANTA CRUZ BIOTECHNOLOGY, INC.

LIR-8 siRNA (h): sc-105620

BACKGROUND

The leukocyte immunoglobulin-like receptor (LIR) gene family maps to a cluster on chromosome 19 and encodes two subfamilies of LIR proteins, namely subfamily A and subfamily B. The subfamily B class of LIRs are characterized by the presence of a transmembrane domain, two to four extracellular Ig-like (immunoglobulin-like) domains and two to four cytoplasmic immunoreceptor tyrosine-based inhibitory motifs (ITIMs). Class B LIRs are expressed on antigen-presenting B cells and monocytes where they function to bind MHC class I molecules, thereby inducing an inhibitory cascade that prevents immune system responses throughout the cell. LIR-8 (leukocyte immunoglobulin-like receptor 8), also known as LILRB5 or CD85C, is a 590 amino acid single-pass type I membrane protein that contains four Ig-like domains and belongs to the B subfamily of LIR receptors. LIR-8 exists as two alternatively spliced isoforms and is thought to function as a receptor for MHC class I molecules, possibly contributing to inhibitory cascades within the immune system.

REFERENCES

1. Arm, J.P., et al. 1997. Molecular identification of a novel family of human Ig superfamily members that possess immunoreceptor tyrosine-based inhibition motifs and homology to the mouse gp49B1 inhibitory receptor. J. Immunol. 159: 2342-2349.
2. Borges, L., et al. 1997. A family of human lymphoid and myeloid Ig-like receptors, some of which bind to MHC class I molecules. J. Immunol. 159: 5192-5196.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604814. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Poon, K., et al. 2005. Expression of leukocyte immunoglobulin-like receptors and natural killer receptors on virus-specific $CD8^+$ T cells during the evolution of Epstein-Barr virus-specific immune responses *in vivo*. Viral Immunol. 18: 513-522.
5. Hirayasu, K., et al. 2008. Evidence for natural selection on leukocyte immunoglobulin-like receptors for HLA class I in Northeast Asians. Am. J. Hum. Genet. 82: 1075-1083.

CHROMOSOMAL LOCATION

Genetic locus: LILRB5 (human) mapping to 19q13.42.

PRODUCT

LIR-8 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 LIR-8 shRNA Plasmid (h): sc-105620-SH and LIR-8 shRNA (h) Lentiviral Particles: sc-105620-V as alternate gene silencing products.

For independent verification of LIR-8 (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-105620A, sc-105620B and sc-105620C.

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

LIR-8 siRNA (h) is recommended for the inhibition of LIR-8 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

ILT-4/5 (F-7): sc-390287 is recommended as a control antibody for monitoring of LIR-8 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 LIR-8 gene expression knockdown using RT-PCR Primer: LIR-8 (h)-PR: sc-105620-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.