SANTA CRUZ BIOTECHNOLOGY, INC.

FCRLB siRNA (h): sc-88168

BACKGROUND

Fc receptor-like (FCRL) molecules are implicated in both malignancies and autoimmune disorders. Homologous to the well-known receptors in the Fc division of immunoglobulins (FCR), Fc receptor-like molecules helped contribute many new genes to the immunoglobulin superfamily (IgSF). These genes, located on the human chromosomal region 1q23.3, also display significant diversity between humans and mice. The Fc receptor-like molecules retain dual or autonomous signaling properties, as well as diverse extracellular frameworks and preferential B lineage expression. FCRLB (Fc receptor-like B), also known as FCRL2 (Fc receptor-like protein 2), FcRY (Fc receptor-related protein Y), FCRLM2 (Fc receptor-like and mucin-like protein 2) or FREB-2 (Fc receptor homolog expressed in B cells protein 2), is a 426 amino acid cytoplasmic and endoplasmic reticulum protein that contains two Ig-like C2-type (immunoglobulin-like) domains and exists as five alternatively spliced isoforms.

REFERENCES

1. Mechetina, L.V., Najakshin, A.M., Volkova, O.Y., Guselnikov, S.V., Faizulin, R.Z., Alabyev, B.Y., Chikaev, N.A., Vinogradova, M.S. and Taranin, A.V. 2002. FCRL, a novel member of the leukocyte Fc receptor family possesses unique structural features. Eur. J. Immunol. 32: 87-96.
2. Masuda, K., Davis, R.S., Maruyama, T., Zhang, J., He, T., Cooper, M.D., O-Wang, J. and Burrows, P.D. 2005. FcRY, an Fc receptor related gene differentially expressed during B lymphocyte development and activation. Gene 363: 32-40.
3. Wilson, T.J. and Colonna, M. 2005. A new Fc receptor homolog, FREB2, found in germinal center B cells. Genes Immun. 6: 341-346.
4. Chikaev, N.A., Bykova, E.A., Najakshin, A.M., Mechetina, L.V., Volkova, O.Y., Peklo, M.M., Shevelev, A.Y., Vlasik, T.N., Roesch, A., Vogt, T. and Taranin, A.V. 2005. Cloning and characterization of the human FCRL2 gene. Genomics 85: 264-272.
5. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609251. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Taylor, A.I., Gould, H.J., Sutton, B.J. and Calvert, R.A. 2007. The first avian Ig-like Fc receptor family member combines features of mammalian FcR and FCRL. Immunogenetics 59: 323-328.

CHROMOSOMAL LOCATION

Genetic locus: FCRLB (human) mapping to 1q23.3.

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.

PRODUCT

FCRLB 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 FCRLB shRNA Plasmid (h): sc-88168-SH and FCRLB shRNA (h) Lentiviral Particles: sc-88168-V as alternate gene silencing products.

For independent verification of FCRLB (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-88168A, sc-88168B and sc-88168C.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FCRLB gene expression knockdown using RT-PCR Primer: FCRLB (h)-PR: sc-88168-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.