SANTA CRUZ BIOTECHNOLOGY, INC.

Fcrl5 siRNA (m): sc-45697

BACKGROUND

The Fc receptor homolog (FcRH) family of proteins are related to the classical Fc receptors (FcR) and belong to the immunoglobulin receptor superfamily. The proteins in the FcRH family (namely FcRH1-FcRH6) are type I transmembrane glycoproteins that are involved in immune system regulation and have immunoreceptor-tyrosine inhibitory motifs in their cytoplasmic domains. Fcrl5 (Fc receptor-like protein 5), also known as Fcrh3 (Fc receptor homolog 3), is a 596 amino acid single-pass type I membrane protein that is the mouse homolog of human FcRH3. Localized to the cell membrane and expressed in marginal zone B cells, Fcrl5 contains five Ig-like C2-type domains and is thought to function as an inhibitory coreceptor for B cells. Two isoforms of Fcrl5 exist due to alternative splicing events.

REFERENCES

1. Davis, R.S., et al. 2001. Identification of a family of Fc receptor homologs with preferential B cell expression. Proc. Natl. Acad. Sci. USA 98: 9772-9777.
2. Davis, R.S., et al. 2002. Fc receptor homologs: newest members of a remarkably diverse Fc receptor gene family. Immunol. Rev. 190: 123-136.
3. Ehrhardt, G.R., et al. 2003. The inhibitory potential of Fc receptor homolog 4 on memory B cells. Proc. Natl. Acad. Sci. USA 100: 13489-13494.
4. Davis, R.S., et al. 2004. Differential B cell expression of mouse Fc receptor homologs. Int. Immunol. 16: 1343-1353.
5. Davis, R.S., et al. 2005. An extended family of Fc receptor relatives. Eur. J. Immunol. 35: 674-680.
6. Won, W.J., et al. 2006. Fc receptor homolog 3 is a novel immunoregulatory marker of marginal zone and B1 B cells. J. Immunol. 177: 6815-6823.
7. Fayngerts, S.A., et al. 2007. Species-specific evolution of the FcR family in endothermic vertebrates. Immunogenetics 59: 493-506.
8. Haga, C.L., et al. 2007. Fc receptor-like 5 inhibits B cell activation via SHP-1 tyrosine phosphatase recruitment. Proc. Natl. Acad. Sci. USA 104: 9770-9775.

CHROMOSOMAL LOCATION

Genetic locus: Fcrl5 (mouse) mapping to 3 F1.

PRODUCT

Fcrl5 siRNA (m) 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 Fcrl5 shRNA Plasmid (m): sc-45697-SH and Fcrl5 shRNA (m) Lentiviral Particles: sc-45697-V as alternate gene silencing products.

For independent verification of Fcrl5 (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-45697A, sc-45697B and sc-45697C.

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

Fcrl5 siRNA (m) is recommended for the inhibition of Fcrl5 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 Fcrl5 gene expression knockdown using RT-PCR Primer: Fcrl5 (m)-PR: sc-45697-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.