

LYPD4 siRNA (h): sc-97844

BACKGROUND

LYPD4 (LY6/PLAUR domain containing 4), also known as SMR, is a 246 amino acid membrane protein that contains one UPAR/Ly6 domain and belongs to the Ly-6 superfamily. Members of the Ly-6 family contain an LU domain, which consists of approximately 80 amino acids and is characterized by a conserved pattern of ten cysteine residues. Existing as two alternatively spliced isoforms and localizing to the cytoplasm, LYPD4 is encoded by a gene located on human chromosome 19q13.2. Chromosome 19 consists of approximately 63 million bases and makes up over 2% of human genomic DNA. Chromosome 19 is recognized for having the greatest gene density of the human chromosomes and it is the genetic home for a number of immunoglobulin (Ig) superfamily members, including the killer cell and leukocyte Ig-like receptors, a variety of ICAMs, the CEACAM and PSG families and Fc receptors (FcRs).

REFERENCES

1. Teglund, S., Olsen, A., Khan, W.N., Frängsmyr, L. and Hammarström, S. 1994. The pregnancy-specific glycoprotein (PSG) gene cluster on human chromosome 19: fine structure of the 11 PSG genes and identification of 6 new genes forming a third subgroup within the carcinoembryonic antigen (CEA) family. *Genomics* 23: 669-684.
2. Trowsdale, J., Barten, R., Haude, A., Stewart, C.A., Beck, S. and Wilson, M.J. 2001. The genomic context of natural killer receptor extended gene families. *Immunol. Rev.* 181: 20-38.
3. Tsuji, H., Okamoto, K., Matsuzaka, Y., Iizuka, H., Tamiya, G. and Inoko, H. 2003. SLURP-2, a novel member of the human Ly-6 superfamily that is up-regulated in psoriasis vulgaris. *Genomics* 81: 26-33.
4. Barrow, A.D. and Trowsdale, J. 2008. The extended human leukocyte receptor complex: diverse ways of modulating immune responses. *Immunol. Rev.* 224: 98-123.
5. Flanagan, K., Modrusan, Z., Cornelius, J., Chavali, A., Kasman, I., Komuves, L., Mo, L. and Diehl, L. 2008. Intestinal epithelial cell up-regulation of LY6 molecules during colitis results in enhanced chemokine secretion. *J. Immunol.* 180: 3874-3881.
6. Darvas, M., Morsch, M., Racz, I., Ahmadi, S., Swandulla, D. and Zimmer, A. 2009. Modulation of the Ca²⁺ conductance of nicotinic acetylcholine receptors by LYPD6. *Eur. Neuropsychopharmacol.* 19: 670-681.
7. Choi, S.H., Kong, H.K., Park, S.Y. and Park, J.H. 2009. Metastatic effect of LY-6K gene in breast cancer cells. *Int. J. Oncol.* 35: 601-607.
8. Ni, J., Lang, Q., Bai, M., Zhong, C., Chen, X., Wan, B. and Yu, L. 2009. Cloning and characterization of a human LYPD7, a new member of the Ly-6 superfamily. *Mol. Biol. Rep.* 36: 697-703.
9. Zhang, Y., Lang, Q., Li, J., Xie, F., Wan, B. and Yu, L. 2010. Identification and characterization of human LYPD6, a new member of the Ly-6 superfamily. *Mol. Biol. Rep.* 37: 2055-2062.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: LYPD4 (human) mapping to 19q13.2.

PRODUCT

LYPD4 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 LYPD4 shRNA Plasmid (h): sc-97844-SH and LYPD4 shRNA (h) Lentiviral Particles: sc-97844-V as alternate gene silencing products.

For independent verification of LYPD4 (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-97844A, sc-97844B and sc-97844C.

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

LYPD4 siRNA (h) is recommended for the inhibition of LYPD4 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 LYPD4 gene expression knockdown using RT-PCR Primer: LYPD4 (h)-PR: sc-97844-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.