SANTA CRUZ BIOTECHNOLOGY, INC.

Ly-6K siRNA (h): sc-77440

BACKGROUND

The Ly-6 (lymphocyte antigen 6) alloantigens represent a family of phosphatidylinositol-anchored proteins that play a role in the process of T lymphocyte activation. Ly-6 family members share amino acid homology throughout a distinctive cysteine rich protein domain that incorporates O-linked carbohydrates. During hematopoiesis, murine Ly-6 molecules have unique patterns of tissue expression, from multipotential stem cells to lineage committed precursor cells, and, on specific leukocyte sub-populations in the peripheral lymphoid tissues. Ly-6K (lymphocyte antigen 6 complex, locus K), also known as CO16, is a 165 amino acid protein that is both secreted and lipid-anchored to the cell membrane and contains one UPAR/Ly-6 domain. Expressed specifically in testis, Ly-6K is thought to play a role in cell growth and may also be a potential marker for various types of carcinomas.

REFERENCES

1. LeClair, K.P., et al. 1986. Isolation of a murine Ly-6 cDNA reveals a new multigene family. EMBO J. 5: 3227-3234.
2. Rock, K.L., et al. 1989. The Ly-6 locus: a multigene family encoding phosphatidylinositol-anchored membrane proteins concerned with T cell activation. Immunol. Rev. 111: 195-224.
3. Horie, M., et al. 1998. Isolation and characterization of a new member of the human Ly-6 gene family (LY6H). Genomics 53: 365-368.
4. Apostolopoulos, J., et al. 1999. Identification of mouse Ly6H and its expression in normal tissue. Immunogenetics 49: 987-990.
5. de Nooij-van Dalen, A.G., et al. 2003. Characterization of the human Ly-6 antigens, the newly annotated member Ly-6K included, as molecular markers for head-and-neck squamous cell carcinoma. Int. J. Cancer 103: 768-774.
6. Lee, J.W., et al. 2006. Ly-6K gene: a novel molecular marker for human breast cancer. Oncol. Rep. 16: 1211-1214.

CHROMOSOMAL LOCATION

Genetic locus: LY6K (human) mapping to 8q24.3.

PRODUCT

Ly-6K 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 Ly-6K shRNA Plasmid (h): sc-77440-SH and Ly-6K shRNA (h) Lentiviral Particles: sc-77440-V as alternate gene silencing products.

For independent verification of Ly-6K (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-77440A, sc-77440B and sc-77440C.

PROTOCOLS

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

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

Ly-6K siRNA (h) is recommended for the inhibition of Ly-6K 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

Ly-6K (G-11): sc-393560 is recommended as a control antibody for monitoring of Ly-6K 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 Ly-6K gene expression knockdown using RT-PCR Primer: Ly-6K (h)-PR: sc-77440-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kong, H.K., et al. 2012. The regulatory mechanism of the Ly-6K gene expression in human breast cancer cells. J. Biol. Chem. 287: 38889-38900.

RESEARCH USE

For research use only, not for use in diagnostic procedures.