SANTA CRUZ BIOTECHNOLOGY, INC.

Kell siRNA (m): sc-72104

BACKGROUND

The KEL (CD238) gene encodes a type II transmembrane endopeptidase, Kell, that shares a consensus sequence with a large family of zinc-dependent endopeptidases. The Kell blood group protein is expressed primarily in the erythroid tissues and testis and with weaker expression in a large number of other tissues such as brain and lymphoid tissues. Immunohistochemistry reveals human Kell protein is localized to the Sertoli cells of the testis and the follicular dendritic cells of the spleen and tonsil. Kell is one of the major human surface antigens on red blood cells where it is linked by a single disulfide bond to XK. The absence of XK, as occurs in the McLeod phenotype, is associated with a set of clinical symptoms that include nerve and muscle disorders and red cell acanthocytosis.

REFERENCES

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3. Camara-Clayette, V., Rahuel, C., Lopez, C., Hattab, C., Verkarre, V., Bertrand, O. and Cartron, J.P. 2001. Transcriptional regulation of the KEL gene and Kell protein expression in erythroid and non-erythroid cells. Biochem. J. 356: 171-180.
4. Yu, L.C., Twu, Y.C., Chang, C.Y. and Lin, M. 2001. Molecular basis of the Kell-null phenotype: a mutation at the splice site of human KEL gene abolishes the expression of Kell blood group antigens. J. Biol. Chem. 276: 10247-10252.
5. Lee, S., Russo, D.C., Reiner, A.P., Lee, J.H., Sy, M.Y., Telen, M.J., Judd, W.J., Simon, P., Rodrigues, M.J., Chabert, T., Poole, J., Jovanovic-Srzentic, S., Levene, C., Yahalom, V. and Redman, C.M. 2001. Molecular defects underlying the Kell null phenotype. J. Biol. Chem. 276: 27281-27289.
6. Wagner, T., Lanzer, G. and Geissler, K. 2002. Kell expression on myeloid progenitor cells. Leuk. Lymphoma 43: 479-485.

CHROMOSOMAL LOCATION

Genetic locus: Kel (mouse) mapping to 6 B2.1.

PRODUCT

Kell 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 Kell shRNA Plasmid (m): sc-72104-SH and Kell shRNA (m) Lentiviral Particles: sc-72104-V as alternate gene silencing products.

For independent verification of Kell (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-72104A, sc-72104B and sc-72104C.

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

Kell siRNA (m) is recommended for the inhibition of Kell 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.

GENE EXPRESSION MONITORING

Kell (A-10): sc-377199 is recommended as a control antibody for monitoring of Kell 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 Kell gene expression knockdown using RT-PCR Primer: Kell (m)-PR: sc-72104-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.