SANTA CRUZ BIOTECHNOLOGY, INC.

XKR8 siRNA (h): sc-88611

BACKGROUND

Kell and XK are two covalently linked plasma membrane proteins that constitute the Kell blood group system, a group of antigens on the surface of red blood cells that are important determinants of blood type and targets for autoimmune or alloimmune diseases. XK is a 444 amino acid protein that spans the membrane ten times and carries the ubiquitous antigen, Kx, which determines blood type. The XK (X-linked Kx blood group)-related gene family are homologs of XK. XKR8 (XK-related protein 8), also known as XRG8 or hXkr8, is a 395 amino acid multi-pass membrane protein that may promote phosphatidylserine exposure on apoptotic cell surface, possibly by mediating phospholipid scrambling. Phosphatidylserine is a specific marker only present at the surface of apoptotic cells and acts as a specific signal for engulfment.

REFERENCES

1. Lee, S., Russo, D. and Redman, C. 2000. Functional and structural aspects of the Kell blood group system. Transfus. Med. Rev. 14: 93-103.
2. Lee, S., Russo, D. and Redman, C.M. 2000. The Kell blood group system: Kell and XK membrane proteins. Semin. Hematol. 37: 113-121.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 314850. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Singleton, B.K., Green, C.A., Renaud, S., Fuhr, P., Poole, J. and Daniels, G.L. 2003. McLeod syndrome resulting from a novel XK mutation. Br. J. Haematol. 122: 682-685.
5. Feder, M. and Bujnicki, J.M. 2005. Identification of a new family of putative PD-(D/E)XK nucleases with unusual phylogenomic distribution and a new type of the active site. BMC Genomics 6: 21.
6. Pu, J.J., Redman, C.M., Visser, J.W. and Lee, S. 2005. Onset of expression of the components of the Kell blood group complex. Transfusion 45: 969-974.
7. Zeman, A., Daniels, G., Tilley, L., Dunn, M., Toplis, L., Bullock, T., Poole, J. and Blackwood, D. 2005. McLeod syndrome: life-long neuropsychiatric disorder due to a novel mutation of the XK gene. Psychiatr. Genet. 15: 291-293.
8. Calenda, G., Peng, J., Redman, C.M., Sha, Q., Wu, X. and Lee, S. 2006. Identification of two new members, XPLAC and XTES, of the XK family. Gene 370: 6-16.
9. Suzuki, J., Denning, D.P., Imanishi, E., Horvitz, H.R. and Nagata, S. 2013. Xk-related protein 8 and CED-8 promote phosphatidylserine exposure in apoptotic cells. Science 341: 403-406.

CHROMOSOMAL LOCATION

Genetic locus: XKR8 (human) mapping to 1p35.3.

PROTOCOLS

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

PRODUCT

XKR8 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 XKR8 shRNA Plasmid (h): sc-88611-SH and XKR8 shRNA (h) Lentiviral Particles: sc-88611-V as alternate gene silencing products.

For independent verification of XKR8 (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-88611A, sc-88611B and sc-88611C.

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

XKR8 siRNA (h) is recommended for the inhibition of XKR8 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 XKR8 gene expression knockdown using RT-PCR Primer: XKR8 (h)-PR: sc-88611-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.