



XK siRNA (h): sc-61807

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 10 times and carries the ubiquitous antigen, Kx, which determines blood type. XK also plays a role in the sodium-dependent membrane transport of oligopeptides and neutral amino acids. XK is expressed at high levels in brain, heart, skeletal muscle and pancreas. Defects in the XK gene cause McLeod syndrome (MLS), an X-linked multisystem disorder characterized by abnormalities in neuromuscular and hematopoietic system such as acanthocytic red blood cells and late-onset forms of muscular dystrophy with nerve abnormalities.

REFERENCES

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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., et al. 2003. McLeod syndrome resulting from a novel XK mutation. *Br. J. Haematol.* 122: 682-685.
5. Danek, A., et al. 2005. Neuroacanthocytosis: new developments in a neglected group of dementing disorders. *J. Neurol. Sci.* 229-230: 171-186.
6. Feder, M., et al. 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.
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CHROMOSOMAL LOCATION

Genetic locus: XK (human) mapping to Xp21.1.

PRODUCT

XK 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 XK shRNA Plasmid (h): sc-61807-SH and XK shRNA (h) Lentiviral Particles: sc-61807-V as alternate gene silencing products.

For independent verification of XK (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-61807A, sc-61807B and sc-61807C.

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 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

XK siRNA (h) is recommended for the inhibition of XK 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 XK gene expression knockdown using RT-PCR Primer: XK (h)-PR: sc-61807-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.