SANTA CRUZ BIOTECHNOLOGY, INC.

JRKL siRNA (h): sc-96749

BACKGROUND

The tigger transposable element derived (TIGD) protein family (whose members include TIGD1, TIGD2, TIGD3, TIGD4, TIGD5, TIGD6, TIGD7, JRKL and JRK) is a subfamily of the DNA-mediated transposons superfamily. While the exact function of tigger subfamily proteins is unknown, all tigger subfamily proteins contain a DDE domain and an HTH CENPB-type DNA-binding domain, indicating a possible DNA-binding function. JRKL is a 442 amino acid protein with a predicted nuclear localization. JRKL is abundantly expressed in most tissues, with less expression in liver, lung and peripheral blood leukocytes. With 35% homology to mouse JRK protein which causes epileptic seizures in mice when inactivated, JRKL may be biologically significant in the development of epilepsy.

REFERENCES

1. Toth, M., et al. 1995. Epileptic seizures caused by inactivation of a novel gene, jerky, related to centromere binding protein-B in transgenic mice. Nat. Genet. 11: 71-75.
2. Zeng, Z., et al. 1997. Cloning, mapping, and tissue distribution of a human homologue of the mouse jerky gene product. Biochem. Biophys. Res. Commun. 236: 389-395.
3. Morita, R., et al. 1998. JH8, a gene highly homologous to the mouse jerky gene, maps to the region for childhood absence epilepsy on 8q24. Biochem. Biophys. Res. Commun. 248: 307-314.
4. Morita, R., et al. 1999. Exclusion of the JRK/JH8 gene as a candidate for human childhood absence epilepsy mapped on 8q24. Epilepsy Res. 37: 151-158.
5. Moore, T., et al. 2001. Polymorphism analysis of JRK/JH8, the human homologue of mouse jerky, and description of a rare mutation in a case of CAE evolving to JME. Epilepsy Res. 46: 157-167.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603211. World Wide Web URL: http://www.ncbi.nlm.nih.gov/om

CHROMOSOMAL LOCATION

Genetic locus: JRKL (human) mapping to 11q21.

PRODUCT

JRKL 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 JRKL shRNA Plasmid (h): sc-96749-SH and JRKL shRNA (h) Lentiviral Particles: sc-96749-V as alternate gene silencing products.

For independent verification of JRKL (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-96749A, sc-96749B and sc-96749C.

RESEARCH USE

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

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

JRKL siRNA (h) is recommended for the inhibition of JRKL 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

JRKL (B-4): sc-514721 is recommended as a control antibody for monitoring of JRKL 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 JRKL gene expression knockdown using RT-PCR Primer: JRKL (h)-PR: sc-96749-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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