SANTA CRUZ BIOTECHNOLOGY, INC.

KPL2 siRNA (h): sc-92018

BACKGROUND

Flagella and cillia are both membrane-bound projections from the cell surface that beat in distinctive patterns. Cilia are shorter and usually more profuse than flagella and contain a microtubule cytoskeleton, the ciliary axoneme, surrounded by a ciliary membrane. The ciliary membranes of all cilia hold specific receptors and ion channel proteins that initiate signaling pathways that regulate motility and/or link mechanical or chemical stimuli to intracellular transduction cascades regulating differentiation, migration and cell growth during development and in adulthood. KPL2, also known as SPEF2 (sperm flagellar 2), is a 1,822 amino acid protein that contains a calponin homology domain, three nuclear localization signals, a consensus P-loop and a proline-rich region. Required for correct axoneme develoment, KPL2 is predominantly expressed in cells with cilia or flagella. Four isoforms of KPL2 exists as a result of alternative splicing events.

REFERENCES

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3. Chan, S.W., Fowler, K.J., Choo, K.H. and Kalitsis, P. 2005. Spef1, a conserved novel testis protein found in mouse sperm flagella. Gene 353: 189-199.
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CHROMOSOMAL LOCATION

Genetic locus: SPEF2 (human) mapping to 5p13.2.

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.

PRODUCT

KPL2 siRNA (h) is a pool of 2 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 KPL2 shRNA Plasmid (h): sc-92018-SH and KPL2 shRNA (h) Lentiviral Particles: sc-92018-V as alternate gene silencing products.

For independent verification of KPL2 (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-92018A and sc-92018B.

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

KPL2 siRNA (h) is recommended for the inhibition of KPL2 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 KPL2 gene expression knockdown using RT-PCR Primer: KPL2 (h)-PR: sc-92018-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.