

Kinectin 1 siRNA (h): sc-43382

BACKGROUND

The kinesin family of motor proteins comprise at least two forms of conventional kinesin, which are encoded by different genes and designated as ubiquitous kinesin, which is expressed in all cells and tissues, and neuronal kinesin, which is expressed exclusively in neuronal cells. The motor protein kinesin is a heterotetramer composed of two heavy chains and two light chains. While the kinesin heavy chain contains the motor activity, evidence suggests that the kinesin light chain is involved in either modulation of kinesin heavy chain activity or in cargo binding. Kinesin-driven vesicle motility is dependent upon Kinectin 1, a kinesin-binding protein. Kinectin 1, also known as kinesin receptor, is an integral membrane protein in the ER. Despite the kinesin-Kinectin 1 interaction, a great deal of debate surrounds the involvement of Kinectin 1 in microtubule-dependent transport.

REFERENCES

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4. Yu, H., et al. 1995. Characterization of Kinectin, a kinesin-binding protein: primary sequence and N-terminal topogenic signal analysis. *Mol. Biol. Cell* 6: 171-183.
5. Vignali, G., et al. 1997. Expression of neuronal kinesin heavy chain is developmentally regulated in the central nervous system of the rat. *J. Neurochem.* 69: 1840-1849.
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CHROMOSOMAL LOCATION

Genetic locus: KTN1 (human) mapping to 14q22.3.

PRODUCT

Kinectin 1 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 Kinectin 1 shRNA Plasmid (h): sc-43382-SH and Kinectin 1 shRNA (h) Lentiviral Particles: sc-43382-V as alternate gene silencing products.

For independent verification of Kinectin 1 (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-43382A, sc-43382B and sc-43382C.

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

Kinectin 1 siRNA (h) is recommended for the inhibition of Kinectin 1 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.

GENE EXPRESSION MONITORING

Kinectin 1 (A-12): sc-374577 is recommended as a control antibody for monitoring of Kinectin 1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Kinectin 1 gene expression knockdown using RT-PCR Primer: Kinectin 1 (h)-PR: sc-43382-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.

PROTOCOLS

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