SANTA CRUZ BIOTECHNOLOGY, INC.

KIF24 siRNA (h): sc-92804

BACKGROUND

The kinesins constitute a large family of microtubule-dependent motor proteins which are responsible for the distribution of numerous organelles, vesicles and macromolecular complexes throughout the cell. Individual kinesin members play crucial roles in cell division, intracellular transport and membrane trafficking events, including endocytosis and transcytosis. KIF24 (kinesin family member 24) is a 1,368 amino acid cytoplasmic and cytoskeletal protein that belongs to the kinesin-like protein family. Existing as four alternatively spliced isoforms, KIF24 contains one Kinesin-motor domain and a single SAM (sterile α motif) domain. KIF24 is phosphorylated on multiple amino acid residues and is encoded by a gene that maps to human chromosome 9p13.3.

REFERENCES

1. Hirokawa, N. 1998. Kinesin and dynein superfamily proteins and the mechanism of organelle transport. Science 279: 519-526.
2. Reese, E.L. and Haimo, L.T. 2000. Dynein, dynactin, and kinesin II's interaction with microtubules is regulated during bidirectional organelle transport. J. Cell Biol. 151: 155-166.
3. Miki, H., et al. 2001. All kinesin superfamily protein, KIF, genes in mouse and human. Proc. Natl. Acad. Sci. USA 98: 7004-7011.
4. Hirokawa, N., et al. 2009. Kinesin superfamily motor proteins and intracellular transport. Nat. Rev. Mol. Cell Biol. 10: 682-696.
5. Venturelli, E., et al. 2010. Is KIF24 a genetic risk factor for frontotemporal lobar degeneration? Neurosci. Lett. 482: 240-244.
6. Kobayashi, T., et al. 2011. Centriolar kinesin Kif24 interacts with CP110 to remodel microtubules and regulate ciliogenesis. Cell 145: 914-925.

CHROMOSOMAL LOCATION

Genetic locus: KIF24 (human) mapping to 9p13.3.

PRODUCT

KIF24 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 KIF24 shRNA Plasmid (h): sc-92804-SH and KIF24 shRNA (h) Lentiviral Particles: sc-92804-V as alternate gene silencing products.

For independent verification of KIF24 (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-92804A, sc-92804B and sc-92804C.

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

KIF24 siRNA (h) is recommended for the inhibition of KIF24 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 KIF24 gene expression knockdown using RT-PCR Primer: KIF24 (h)-PR: sc-92804-PR (20 µl, 583 bp). 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.