SANTA CRUZ BIOTECHNOLOGY, INC.

KIF26B siRNA (m): sc-146473

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. KIF26B (kinesin family member 26B) is a 2,108 amino acid protein that contains one kinesin-motor domain and belongs to the kinesin-like protein family. The kinesin-motor domain is responsible for the ATP-dependent movement of KIF26B across microtubules. KIF26B regulates the adhesion of mesenchymal cells in contact with ureteric buds, making it essential for kidney development. KIF26B is also thought to play a role in embryogenesis, specifically in the development of limbs, face and somites. KIF26B localizes to the cytoplasm and exists as two alternatively splices isoforms. The gene encoding KIF26B is located on human chromosome 1q44.

REFERENCES

1. Vallee, R.B. and Shpetner, H.S. 1990. Motor proteins of cytoplasmic microtubules. Annu. Rev. Biochem. 59: 909-932.
2. Endow, S.A. 1991. The emerging kinesin family of microtubule motor proteins. Trends Biochem. Sci. 16: 221-225.
3. Brady, S.T. 1995. A kinesin medley: biochemical and functional heterogeneity. Trends Cell Biol. 5: 159-164.
4. Hamm-Alvarez, S.F. 1998. Molecular motors and their role in membrane traffic. Adv. Drug Deliv. Rev. 29: 229-242.
5. Miki, H., et al. 2001. All kinesin superfamily protein, KIF, genes in mouse and human. Proc. Natl. Acad. Sci. USA 98: 7004-7011.
6. Marikawa, Y., et al. 2004. An enhancer-trap LacZ transgene reveals a distinct expression pattern of Kinesin family 26B in mouse embryos. Dev. Genes Evol. 214: 64-71.
7. Sarli, V. and Giannis, A. 2006. Inhibitors of mitotic kinesins: next-generation antimitotics. Chem. Med. Chem. 1: 293-298.
8. Uchiyama, Y., et al. 2010. KIF26B, a kinesin family gene, regulates adhesion of the embryonic kidney mesenchyme. Proc. Natl. Acad. Sci. USA 107: 9240-9245.

CHROMOSOMAL LOCATION

Genetic locus: Kif26b (mouse) mapping to 1 H4.

PRODUCT

KIF26B siRNA (m) 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 KIF26B shRNA Plasmid (m): sc-146473-SH and KIF26B shRNA (m) Lentiviral Particles: sc-146473-V as alternate gene silencing products.

For independent verification of KIF26B (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-146473A, sc-146473B and sc-146473C.

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

KIF26B siRNA (m) is recommended for the inhibition of KIF26B expression in mouse 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 KIF26B gene expression knockdown using RT-PCR Primer: KIF26B (m)-PR: sc-146473-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Yamamura, Y., et al. 2022. KIF26B contributes to the progression of interstitial fibrosis via migration and myofibroblast differentiation in renal fibroblast. FASEB J. 36: e22606.

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.