

KIF26A siRNA (h): sc-92456

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. KIF26A (kinesin family member 26A) is a 1,882 amino acid protein that contains one N-terminal kinesin-motor domain and belongs to the kinesin-like protein family. The kinesin-motor domain is responsible for the ATP-dependent movement of KIF26A across microtubules.

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., Setou, M., Kaneshiro, K. and Hirokawa, N. 2001. All kinesin superfamily protein, KIF, genes in mouse and human. *Proc. Natl. Acad. Sci. USA* 98: 7004-7011.
6. Sarli, V. and Giannis, A. 2006. Inhibitors of mitotic kinesins: next-generation antimitotics. *ChemMedChem* 1: 293-298.

CHROMOSOMAL LOCATION

Genetic locus: KIF26A (human) mapping to 14q32.33.

PRODUCT

KIF26A 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 KIF26A shRNA Plasmid (h): sc-92456-SH and KIF26A shRNA (h) Lentiviral Particles: sc-92456-V as alternate gene silencing products.

For independent verification of KIF26A (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-92456A, sc-92456B and sc-92456C.

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

KIF26A siRNA (h) is recommended for the inhibition of KIF26A 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

KIF26A (YY-N): sc-100949 is recommended as a control antibody for monitoring of KIF26A 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 KIF26A gene expression knockdown using RT-PCR Primer: KIF26A (h)-PR: sc-92456-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.