SANTA CRUZ BIOTECHNOLOGY, INC.

KIF6 siRNA (m): sc-146477

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. KIF6 (kinesin family member 6) is an 814 amino acid protein containing one kinesin-motor domain that belongs to the kinesin-like protein family. Localizing to coronary arteries and other vascular tissue, KIF6 exists as four alternatively spliced isoforms and is encoded by a gene located on human chromosome 6 and mouse chromosome 17. Studies link carriers of the 719Arg allele of KIF6 to a significantly higher risk of myocardial infarction and risk of CHD (coronary heart disease) compared with noncarriers.

REFERENCES

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2. Miki, H., et al. 2005. Analysis of the kinesin superfamily: insights into structure and function. Trends Cell Biol. 15: 467-476.
3. Bare, L.A., et al. 2007. Five common gene variants identify elevated genetic risk for coronary heart disease. Genet. Med. 9: 682-689.
4. Iakoubova, O.A., et al. 2008. Association of the Trp719Arg polymorphism in kinesin-like protein 6 with myocardial infarction and coronary heart disease in 2 prospective trials: the CARE and WOSCOPS trials. J. Am. Coll. Cardiol. 51: 435-443.
5. Shiffman, D., et al. 2008. A kinesin family member 6 variant is associated with coronary heart disease in the Women's Health Study. J. Am. Coll. Cardiol. 51: 444-448.
6. Iakoubova, O.A., et al. 2008. Polymorphism in KIF6 gene and benefit from statins after acute coronary syndromes: results from the PROVE IT-TIMI 22 study. J. Am. Coll. Cardiol. 51: 449-455.
7. Iakoubova, O., et al. 2008. Association of the 719Arg variant of KIF6 with both increased risk of coronary events and with greater response to statin therapy. J. Am. Coll. Cardiol. 51: 2195.

CHROMOSOMAL LOCATION

Genetic locus: Kif6 (mouse) mapping to 17 C.

PRODUCT

KIF6 siRNA (m) is a target-specific 19-25 nt siRNA 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 KIF6 shRNA Plasmid (m): sc-146477-SH and KIF6 shRNA (m) Lentiviral Particles: sc-146477-V as alternate gene silencing products.

PROTOCOLS

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

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

KIF6 siRNA (m) is recommended for the inhibition of KIF6 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 KIF6 gene expression knockdown using RT-PCR Primer: KIF6 (m)-PR: sc-146477-PR (20 µl). 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.