SANTA CRUZ BIOTECHNOLOGY, INC.

KIF18B siRNA (m): sc-146468

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. KIF18B (kinesin family member 18B) is an 864 amino acid nuclear and cytoplasmic protein that belongs to the kinesin-like protein family. Containing one kinesin-motor domain, KIF18B is dominantly expressed in amygdala. During mitosis, KIF18B is suggested to be closely associated with astral microtubules emanating from the spindle pole during prometaphase and metaphase. KIF18B may play an important role in regulating cell division. KIF18B exists as four alternatively spliced isoforms and is encoded by a gene located on human chromosome 17q21.31.

REFERENCES

1. Worby, C.A. and Dixon, J.E. 2002. Sorting out the cellular functions of sorting nexins. Nat. Rev. Mol. Cell Biol. 3: 919-931.
2. Miki, H., Okada, Y. and Hirokawa, N. 2005. Analysis of the kinesin superfamily: insights into structure and function. Trends Cell Biol. 15: 467-476.
3. Daub, H., Olsen, J.V., Bairlein, M., Gnad, F., Oppermann, F.S., Körner, R., Greff, Z., Keri, G., Stemmann, O. and Mann, M. 2008. Kinase-selective enrichment enables quantitative phosphoproteomics of the kinome across the cell cycle. Mol. Cell 31: 438-448.
4. Dephoure, N., Zhou, C., Villen, J., Beausoleil, S.A., Bakalarski, C.E., Elledge, S.J. and Gygi, S.P. 2008. A quantitative atlas of mitotic phosphorylation. Proc. Natl. Acad. Sci. USA 105: 10762-10767.
5. Lee, Y.M., Kim, E., Park, M., Moon, E., Ahn, S.M., Kim, W., Hwang, K.B., Kim, Y.K., Choi, W. and Kim, W. 2010. Cell cycle-regulated expression and subcellular localization of a kinesin-8 member human KIF18B. Gene 466: 16-25.
6. Tanenbaum, M.E., Macurek, L., van der Vaart, B., Galli, M., Akhmanova, A. and Medema, R.H. 2011. A complex of Kif18b and MCAK promotes microtubule depolymerization and is negatively regulated by Aurora kinases. Curr. Biol. 21: 1356-1365.
7. Stout, J.R., Yount, A.L., Powers, J.A., Leblanc, C., Ems-McClung, S.C. and Walczak, C.E. 2011. Kif18B interacts with EB1 and controls astral microtubule length during mitosis. Mol. Biol. Cell 22: 3070-3080.

CHROMOSOMAL LOCATION

Genetic locus: Kif18b (mouse) mapping to 11 E1.

PRODUCT

KIF18B 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 KIF18B shRNA Plasmid (m): sc-146468-SH and KIF18B shRNA (m) Lentiviral Particles: sc-146468-V as alternate gene silencing 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

KIF18B siRNA (m) is recommended for the inhibition of KIF18B 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 KIF18B gene expression knockdown using RT-PCR Primer: KIF18B (m)-PR: sc-146468-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.

PROTOCOLS

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