SANTA CRUZ BIOTECHNOLOGY, INC.

MINK1 siRNA (h): sc-62616

BACKGROUND

MINK1 (misshapen-like kinase 1, mitogen-activated protein kinase kinase kinase kinase 6, GCK family kinase MINK) is a 1,332 amino acid protein encoded by the human gene MINK1. MINK1 belongs to the protein kinase superfamily, Ste Ser/Thr protein kinase family, Ste20 subfamily and contains one CNH domain and one protein kinase domain. MINK1 acts as a serine/threonine kinase and may play a role in the response to environmental stress. It appears to act upstream of the Jun N-terminal pathway and may play a role in the development of the brain. MINK1 is expressed in all tissues with highest expression found in the brain. Thymocytes that engage MHC-self peptide complexes with intermediate affinity are expanded in the thymus through a process of positive selection, whereas those that bind to these complexes with high affinity are eliminated through a process of negative selection. MINK1 is thought to be an essential component of the signaling element that couples the T cell receptor for negative, but not positive, selection.

REFERENCES

1. Dan, I., et al. 2000. Molecular cloning of MINK, a novel member of mammalian GCK family kinases, which is up-regulated during postnatal mouse cerebral development. FEBS Lett. 469: 19-23.
2. Dan, I., et al. 2002. Overlapping of MINK and CHRNE gene loci in the course of mammalian evolution. Nucleic Acids Res. 30: 2906-2910.
3. Qu, K., et al. 2004. Compu-tational and experimental studies on human misshapen/NIK-related kinase MINK1. Curr. Med. Chem. 11: 569-582.
4. Hu, Y., et al. 2004. Identification and functional characterization of a novel human misshapen/Nck interacting kinase-related kinase, hMINKβ. J. Biol. Chem. 279: 54387-54397.
5. McCarty, N., et al. 2004. Signaling by the kinase MINK is essential in the negative selection of autoreactive thymocytes. Nat. Immunol. 6: 65-72.
6. Nicke, B., et al. 2005. Involvement of MINK, a Ste20 family kinase, in Ras oncogene-induced growth arrest in human ovarian surface epithelial cells. Mol. Cell 20: 673-685.
7. Olsen, J.V., et al. 2006. Global, *in vivo,* and site-specific phosphorylation dynamics in signaling networks. Cell 127: 635-648.

CHROMOSOMAL LOCATION

Genetic locus: MINK1 (human) mapping to 17p13.2.

PRODUCT

MINK1 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 MINK1 shRNA Plasmid (h): sc-62616-SH and MINK1 shRNA (h) Lentiviral Particles: sc-62616-V as alternate gene silencing products.

For independent verification of MINK1 (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-62616A, sc-62616B and sc-62616C.

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

MINK1 siRNA (h) is recommended for the inhibition of MINK1 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 MINK1 gene expression knockdown using RT-PCR Primer: MINK1 (h)-PR: sc-62616-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.