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SANTA CRUZ BIOTECHNOLOGY, INC.

TNK1 siRNA (m): sc-154541

BACKGROUND

TNK1 is a 666 amino acid protein that localizes to both the nucleus and the cytoplasm and contains one SH3 domain and one protein kinase domain. Expressed at high levels in fetal lung, liver, brain and kidney and at lower levels in adult ovary, colon, prostate and testis, TNK1 functions to catalyze the ATP-dependent conversion of an L-tyrosine protein to a phosphorylated L-tyrosine protein and is thought to be involved in the negative regulation of cell growth, possibly playing a role in tumor suppression. Additionally, TNK1 may be associated with phospholipid signal transduction and fetal development pathways, further suggesting an important role in growth and development. Multiple isoforms of TNK1 exist and are encoded by a gene which maps to human chromosome 17.

REFERENCES

1. Hoehn, G.T., et al. 1996. TNK1: a novel intracellular tyrosine kinase gene isolated from human umbilical cord blood $CD34^+/Lin^-/CD38^-$ stem/progenitor cells. Oncogene 12: 903-913.
2. Felschow, D.M., et al. 2000. Characterization of the tyrosine kinase TNK1 and its binding with phospholipase C-γ1. Biochem. Biophys. Res. Commun. 273: 294-301.
3. Cho, H.S. and Pai, H.S. 2000. Cloning and characterization of ntTMK1 gene encoding a TMK1-homologous receptor-like kinase in tobacco. Mol. Cells 10: 317-324.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 608076. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Azoitei, N., et al. 2007. Thirty-eight-negative kinase 1 (TNK1) facilitates TNFα-induced apoptosis by blocking NFκB activation. Oncogene 26: 6536-6545.
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CHROMOSOMAL LOCATION

Genetic locus: Tnk1 (mouse) mapping to 11 B3.

PRODUCT

TNK1 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 TNK1 shRNA Plasmid (m): sc-154541-SH and TNK1 shRNA (m) Lentiviral Particles: sc-154541-V as alternate gene silencing products.

For independent verification of TNK1 (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-154541A, sc-154541B and sc-154541C.

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

TNK1 siRNA (m) is recommended for the inhibition of TNK1 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.

GENE EXPRESSION MONITORING

TNK1 (H-11): sc-390359 is recommended as a control antibody for monitoring of TNK1 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 TNK1 gene expression knockdown using RT-PCR Primer: TNK1 (m)-PR: sc-154541-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.