SANTA CRUZ BIOTECHNOLOGY, INC.

LTK siRNA (m): sc-40086

BACKGROUND

LTK, ALK and Ros have been identified as receptor tyrosine kinases having sequence similarity to the Insulin receptor subfamily of kinases. LTK, leukocyte tyrosine kinase, is expressed in murine B-lymphocyte precursors and has also been found in forebrain neurons. ALK, anaplastic lymphoma kinase, is normally highly expressed specifically in the nervous system. A truncated form containing the catalytic domian of ALK is expressed as the result of a translocation occuring in many non-Hodgkin's lymphomas. The c-ros gene was originally identified in mutant form as an oncogene. Ros is normally expressed in a small number of epithelial cell types and may play a role in epithelial development.

REFERENCES

1. Birchmeier, C., et al. 1990. Characterization of Ros1 cDNA from a human glioblastoma cell line. Proc. Natl. Acad. Sci. USA 87: 4799-4803.
2. Haase, V.H., et al. 1991. Alternatively spliced LTK mRNA in neurons predicts a receptor with a larger putative extracellular domain. Oncogene 6: 2319-2325.
3. Morris, S.W., et al. 1994. Fusion of a kinase gene, ALK, to a nucleolar protein gene, NPM, in non-Hodgkin's lymphoma. Science 263: 1281-1284.
4. Kanwar, Y.S., et al. 1995. Cloning of mouse c-Ros renal cDNA, its role in development and relationship to extracellular matrix glycoproteins. Kidney Int. 48: 1646-1659.
5. Sonnenberg-Riethmacher, E., et al. 1996. The c-Ros tyrosine kinase receptor controls regionalization and differentiation of epithelial cells in the epididymis. Genes Dev. 10: 1184-1193.
6. Ueno, H., et al. 1996. Growth and survival signals transmitted via two distinct NPXY motifs within leukocyte tyrosine kinase, an Insulin receptor-related tyrosine kinase. J. Biol. Chem. 271: 27707-27714.
7. Iwahara, T., et al. 1997. Molecular characterization of ALK, a receptor tyrosine kinase expressed specifically in the nervous system. Oncogene 14: 439-449.

CHROMOSOMAL LOCATION

Genetic locus: Ltk (mouse) mapping to 2 E5.

PRODUCT

LTK 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 LTK shRNA Plasmid (m): sc-40086-SH and LTK shRNA (m) Lentiviral Particles: sc-40086-V as alternate gene silencing products.

For independent verification of LTK (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-40086A, sc-40086B and sc-40086C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

LTK siRNA (m) is recommended for the inhibition of LTK 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

LTK (B-6): sc-393465 is recommended as a control antibody for monitoring of LTK 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 LTK gene expression knockdown using RT-PCR Primer: LTK (m)-PR: sc-40086-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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