SANTA CRUZ BIOTECHNOLOGY, INC.

ZPK siRNA (m): sc-39260

BACKGROUND

ZPK (leucine-zipper protein kinase, also designated MUK and DLK) is a serine/threonine kinase containing two potential leucine-zipper motifs. ZPK is highly conserved between human and mouse, and is expressed at high levels in the brain and kidney. ZPK exhibits cell type-specific expression in the epithelial compartments of other organ systems including stomach, kidney, liver and pancreas, and is thought to play a role in the development and maintenance of a variety of specialized cells. ZPK is also thought to act as a negative regulator of cell growth. Expression of ZPK has been correlated with the growth response of hepatocyte subpopulations in regenerating liver tissue. ZPK has also been shown to activate the JNK/SAPK pathway.

REFERENCES

1. Reddy, U.R., et al. 1994. Cloning of a novel putative protein kinase having a leucine zipper domain from human brain. Biochem. Biophys. Res. Commun. 205: 1494-1495.
2. Blouin, R., et al. 1996. Cell-specific expression of the ZPK gene in adult mouse tissues. DNA 15: 631-642.
3. Bergeron, P., et al. 1997. Inhibition of cell growth by overexpression of the ZPK gene. Biochem. Biophys. Res. Commun. 231: 153-155.
4. Hirai, S.I., et al. 1997. MST/MLK2, a member of the mixed lineage kinase family, directly phosphorylates and activates SEK1, an activator of c-Jun N-terminal kinase/stress-activated protein kinase. J. Biol. Chem. 272: 15167-15173.
5. Douziech, M., et al. 1998. Zonal induction of mixed lineage kinase ZPK/DLK/MUK gene expression in regenerating mouse liver. Biochem. Biophys. Res. Commun. 249: 927-932.

CHROMOSOMAL LOCATION

Genetic locus: Map3k12 (mouse) mapping to 15 F3.

PRODUCT

ZPK 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 ZPK shRNA Plasmid (m): sc-39260-SH and ZPK shRNA (m) Lentiviral Particles: sc-39260-V as alternate gene silencing products.

For independent verification of ZPK (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-39260A, sc-39260B and sc-39260C.

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.

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

ZPK siRNA (m) is recommended for the inhibition of ZPK 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 ZPK gene expression knockdown using RT-PCR Primer: ZPK (m)-PR: sc-39260-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.