SANTA CRUZ BIOTECHNOLOGY, INC.

kpm siRNA (m): sc-37445

BACKGROUND

The human protein kinase kpm belongs to a subfamily of serine/threonine protein kinases, which includes the *Drosophila* tumor suppressor protein warts/lats (large tumor suppressor). Among these, kpm is most homologous to, but distinct from, the human homolog LATS1. Human LATS1 binds to Cdc2 in early mitosis and appears to negatively regulate the kinase activity of Cdc2. The kpm protein is expressed relatively constantly throughout the cell cycle and undergoes significant phosphorylation at mitotic phase. Kpm plays a role in cell cycle progression during mitosis, and its deletion or dysfunction might be involved in certain types of human cancers.

REFERENCES

1. Johnston, L.H., Eberly, S.L., Chapman, J.W., Araki, H. and Sugino, A. 1990. The product of the *Saccharomyces cerevisiae* cell cycle gene Dbf2 has homology with protein kinases and is periodically expressed in the cell cycle. Mol. Cell. Biol. 10: 1358-1366.
2. Yarden, O., Plamann, M., Ebbole, D.J. and Yanofsky, C. 1992. Cot-1, a gene required for hyphal elongation in *Neurospora crassa*, encodes a protein kinase. EMBO J. 11: 2159-2166.
3. Toyn, J.H. and Johnston, L.H. 1994. The Dbf2 and Dbf20 protein kinases of budding yeast are activated after the metaphase to anaphase cell cycle transition. EMBO J. 13: 1103-1113.
4. Tao, W., Zhang, S., Turenchalk, G.S., Stewart, R.A., St. John, M.A., Chen, W. and Xu, T. 1999. Human homologue of the *Drosophila melanogaster* LATS tumour suppressor modulates Cdc2 activity. Nat. Genet. 21: 177-181.
5. Hori, T., Takaori-Kondo, A., Kamikubo, Y. and Uchiyama, T. 2000. Molecular cloning of a novel human protein kinase, kpm, that is homologous to warts/lats, a *Drosophila* tumor suppressor. Oncogene 19: 3101-3109.

CHROMOSOMAL LOCATION

Genetic locus: Lats2 (mouse) mapping to 14 C3.

PRODUCT

kpm 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 kpm shRNA Plasmid (m): sc-37445-SH and kpm shRNA (m) Lentiviral Particles: sc-37445-V as alternate gene silencing products.

For independent verification of kpm (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-37445A, sc-37445B and sc-37445C.

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

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

kpm (C-2): sc-515579 is recommended as a control antibody for monitoring of kpm 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 kpm gene expression knockdown using RT-PCR Primer: kpm (m)-PR: sc-37445-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.