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SANTA CRUZ BIOTECHNOLOGY, INC.

Pin1l siRNA (m): sc-151710

BACKGROUND

NIMA was originally shown in *Aspergillus nidulans* to be necessary for entry into mitosis. NIMA-related mammalian proteins have since been identified as Nek1, Nek2 and Nek3. High expression of Nek1 is seen in male and female germ cell lines of mouse. Nek2 is the closest known mammalian relative to NIMA. Like NIMA, Nek2 expression peaks at the G_2 to M phase transition. Originally identified as a NIMA-interacting protein, Pin1 is a peptidyl-prolyl *cis/trans* isomerase (PPIase), which specifically binds to phosphoserine-proline or phosphothreonine-proline bonds in mitotic phosphoproteins. PPIases have been shown to be involved in protein folding, assembly and transport. Pin1 is the first PPIase to be identified as a required protein for cell viability. Pin1l (peptidylprolyl *cis/trans* isomerase, NIMA-interacting 1-like) is a 159 amino acid protein that maps to murine chromosome 2 E2.

REFERENCES

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2. Letwin, K., et al. 1992. A mammalian dual specificity protein kinase, Nek1, is related to the NIMA cell cycle regulator and highly expressed in meiotic germ cells. EMBO J. 11: 3521-3531.
3. Schultz, S.J., et al. 1994. Cell cycle-dependent expression of Nek2, a novel human protein kinase related to the NIMA mitotic regulator of *Aspergillus nidulans*. Cell Growth Differ. 5: 625-635.
4. Lu, K.P., et al. 1996. A human peptidyl-prolyl isomerase essential for regulation of mitosis. Nature 380: 544-547.
5. Yaffe, M.B., et al. 1997. Sequence-specific and phosphorylation-dependent proline isomerization: a potential mitotic regulatory mechanism. Science 278: 1957-1960.
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7. Rhee, K., et al. 1997. The NIMA-related kinase 2, Nek2, is expressed in specific stages of the meiotic cell cycle and associates with meiotic chromosomes. Development 124: 2167-2177.
8. Fry, A.M., et al. 1997. Charcterization of mammalian DNA-related kinases. Meth. Enzymol. 283: 270-282.

CHROMOSOMAL LOCATION

Genetic locus: Pin1-ps1 (mouse) mapping to 2 E2.

PRODUCT

Pin1l siRNA (m) is a target-specific 19-25 nt siRNA 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 Pin1l shRNA Plasmid (m): sc-151710-SH and Pin1l shRNA (m) Lentiviral Particles: sc-151710-V as alternate gene silencing 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

Pin1l siRNA (m) is recommended for the inhibition of Pin1l 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 Pin1l gene expression knockdown using RT-PCR Primer: Pin1l (m)-PR: sc-151710-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.