

Pin4 siRNA (m): sc-152266

BACKGROUND

The peptidyl-prolyl *cis*-/*trans*-isomerase (PPIase) superfamily consists of three subfamilies, all of which contain proteins that are involved in the transport, folding and assembly of proteins. Pin4 (peptidyl-prolyl *cis*-*trans* isomerase NIMA-interacting 4), also known as EPVH, PAR14 (Parvulin 14) or PAR17, is a 131 amino acid member of the parvulin family, one of the three PPIase subfamilies. Expressed throughout the body with lowest expression levels in neuronal tissue, Pin4 contains one PPIase domain and is thought to function as a helper protein that catalytically mediates protein folding events within the cell. Additionally, Pin4 is able to bind DNA and, via this binding, may be involved in regulation of both chromatin remodeling and the cell cycle.

REFERENCES

1. Rulten, S., Thorpe, J. and Kay, J. 1999. Identification of eukaryotic parvulin homologues: a new subfamily of peptidylprolyl *cis*-*trans* isomerases. *Biochem. Biophys. Res. Commun.* 259: 557-562.
2. Uchida, T., Fujimori, F., Tradler, T., Fischer, G. and Rahfeld, J.U. 1999. Identification and characterization of a 14 kDa human protein as a novel parvulin-like peptidyl prolyl *cis*/*trans* isomerase. *FEBS Lett.* 446: 278-282.
3. Terada, T., Shirouzu, M., Fukumori, Y., Fujimori, F., Ito, Y., Kigawa, T., Yokoyama, S. and Uchida, T. 2001. Solution structure of the human parvulin-like peptidyl prolyl *cis*/*trans* isomerase, hPar14. *J. Mol. Biol.* 305: 917-926.
4. Fujiyama, S., Yanagida, M., Hayano, T., Miura, Y., Isobe, T., Fujimori, F., Uchida, T. and Takahashi, N. 2002. Isolation and proteomic characterization of human parvulin-associating preribosomal ribonucleoprotein complexes. *J. Biol. Chem.* 277: 23773-23780.
5. Surmacz, T.A., Bayer, E., Rahfeld, J.U., Fischer, G. and Bayer, P. 2002. The N-terminal basic domain of human parvulin hPar14 is responsible for the entry to the nucleus and high-affinity DNA-binding. *J. Mol. Biol.* 321: 235-247.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300252. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Reimer, T., Weiwad, M., Schierhorn, A., Ruecknagel, P.K., Rahfeld, J.U., Bayer, P. and Fischer, G. 2003. Phosphorylation of the N-terminal domain regulates subcellular localization and DNA binding properties of the peptidyl-prolyl *cis*/*trans* isomerase hPar14. *J. Mol. Biol.* 330: 955-966.
8. Mueller, J.W., Kessler, D., Neumann, D., Stratmann, T., Papatheodorou, P., Hartmann-Fatu, C. and Bayer, P. 2006. Characterization of novel elongated parvulin isoforms that are ubiquitously expressed in human tissues and originate from alternative transcription initiation. *BMC Mol. Biol.* 7: 9.
9. Kessler, D., Papatheodorou, P., Stratmann, T., Dian, E.A., Hartmann-Fatu, C., Rassow, J., Bayer, P. and Mueller, J.W. 2007. The DNA binding parvulin Par17 is targeted to the mitochondrial matrix by a recently evolved prepeptide uniquely present in Hominidae. *BMC Biol.* 5: 37.

CHROMOSOMAL LOCATION

Genetic locus: Pin4 (mouse) mapping to X D.

PRODUCT

Pin4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Pin4 shRNA Plasmid (m): sc-152266-SH and Pin4 shRNA (m) Lentiviral Particles: sc-152266-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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Pin4 siRNA (m) is recommended for the inhibition of Pin4 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 μ M in 66 μ l. 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.

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.