SANTA CRUZ BIOTECHNOLOGY, INC.

Papilin siRNA (h): sc-92158

BACKGROUND

Papilin, also known as PAPLN (papilin, proteoglycan-like sulfated glycoprotein), is a 1,278 amino acid secreted protein that belongs to the Papilin family. Existing as six alternatively spliced isoforms, Papilin consists of a BPTI/Kunitz inhibitor domain, three Ig-like C2-type (immunoglobulin-like) domains, a PLAC domain and five TSP type-1 domains. Essential for embryonic development of *Drosophila melanogaster* and *Caenorhabditis elegans,* Papilin functions as an extracellular matrix glycoprotein that influences cell rearrangements and modulates metalloproteinases during organogenesis. Papilin interacts with several extracellular matrix components and ADAMTS enzymes. Papilin is encoded by a gene located on human chromosome 14q24.2. Chromosome 14 houses over 700 genes and comprises nearly 3.5% of the human genome.

REFERENCES

1. Campbell, A.G., et al. 1987. Papilin: a *Drosophila* proteoglycan-like sulfated glycoprotein from basement membranes. J. Biol. Chem. 262: 17605-17612.
2. Kramerova, I.A., et al. 2000. Papilin in development; a pericellular protein with a homology to the ADAMTS metalloproteinases. Development 127: 5475-5485.
3. Kramerova, I.A., et al. 2003. Alternative splicing of papilin and the diversity of *Drosophila* extracellular matrix during embryonic morphogenesis. Dev. Dyn. 226: 634-642.
4. Fessler, J.H., et al. 2004. Papilin, a novel component of basement membranes, in relation to ADAMTS metalloproteases and ECM development. Int. J. Biochem. Cell Biol. 36: 1079-1084.
5. Tucker, R.P. 2004. The thrombospondin type 1 repeat superfamily. Int. J. Biochem. Cell Biol. 36: 969-974.
6. Kimura, K., et al. 2006. Diversification of transcriptional modulation: large-scale identification and characterization of putative alternative promoters of human genes. Genome Res. 16: 55-65.
7. Kawano, T., et al. 2009. *C. elegans* mig-6 encodes papilin isoforms that affect distinct aspects of DTC migration, and interacts genetically with mig-17 and collagen IV. Development 136: 1433-1442.

CHROMOSOMAL LOCATION

Genetic locus: PAPLN (human) mapping to 14q24.2.

PRODUCT

Papilin siRNA (h) 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 Papilin shRNA Plasmid (h): sc-92158-SH and Papilin shRNA (h) Lentiviral Particles: sc-92158-V as alternate gene silencing products.

For independent verification of Papilin (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-92158A, sc-92158B and sc-92158C.

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

Papilin siRNA (h) is recommended for the inhibition of Papilin expression in human 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 Papilin gene expression knockdown using RT-PCR Primer: Papilin (h)-PR: sc-92158-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.