SANTA CRUZ BIOTECHNOLOGY, INC.

Mindin siRNA (h): sc-61046

BACKGROUND

The Thrombospondin proteins, Thrombospondins 1-4 and Thrombospondin 5 (also designated COMP), compose a family of glycoproteins that are involved in cell-to-cell and cell-to-matrix signaling. These extracellular, cell-surface proteins form complexes of both homo- and heteromultimers. Spondin-2, or Mindin, is also designated DIL-1 for its differential expression in cancerous and non-cancerous lung cells. Full-length SPON2 cDNA encodes a 331 amino acid protein with a domain arrangement similar to zebrafish F-Spondin and Mindin-1/Mindin-2: an FS1 domain, an FS2 domain, a hydrophobic signal sequence in the N-terminus and a Thrombospondin type I repeat. Immunoblot analysis demonstrates expression of dimers and oligomers in a concentration-dependent manner under nonreducing conditions.

REFERENCES

1. Higashijima, S., et al. 1997. Mindin/F-Spondin family: novel ECM proteins expressed in the zebrafish embryonic axis. Dev. Biol. 192: 211-227.
2. Feinstein, Y., et al. 1999. F-Spondin and Mindin: two structurally and functionally related genes expressed in the hippocampus that promote outgrowth of embryonic hippocampal neurons. Development 126: 3637-3648.
3. Manda, R., et al. 1999. Identification of genes (SPON2 and C20orf2) differentially expressed between cancerous and noncancerous lung cells by mRNA differential display. Genomics 61: 5-14.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605918. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. He, Y.W., et al. 2004. The extracellular matrix protein Mindin is a pattern-recognition molecule for microbial pathogens. Nat. Immunol. 5: 88-97.
6. Feinstein, Y. and Klar, A. 2004. The neuronal class 2 TSR proteins F-Spondin and Mindin: a small family with divergent biological activities. Int. J. Biochem. Cell Biol. 36: 975-980.
7. Jia, W., et al. 2005. The extracellular matrix protein Mindin serves as an integrin ligand and is critical for inflammatory cell recruitment. Blood 106: 3854-3859.
8. Li, H., et al. 2006. Efficient dendritic cell priming of T lymphocytes depends on the extracellular matrix protein Mindin. EMBO J. 25: 4097-4107.

CHROMOSOMAL LOCATION

Genetic locus: SPON2 (human) mapping to 4p16.3.

PRODUCT

Mindin 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 Mindin shRNA Plasmid (h): sc-61046-SH and Mindin shRNA (h) Lentiviral Particles: sc-61046-V as alternate gene silencing products.

For independent verification of Mindin (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-61046A, sc-61046B and sc-61046C.

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

Mindin siRNA (h) is recommended for the inhibition of Mindin 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.

GENE EXPRESSION MONITORING

Mindin (A-10): sc-166868 is recommended as a control antibody for monitoring of Mindin 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 Mindin gene expression knockdown using RT-PCR Primer: Mindin (h)-PR: sc-61046-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.