

FNDC3A siRNA (h): sc-62333

BACKGROUND

FNDC3A (fibronectin type III domain containing 3A), also known as HUGO (human gene expressed in odontoblasts), is a 1,134 amino acid protein that belongs to the FNDC3 family of proteins. FNDC3A contains an N-terminal proline-rich region, nine fibronectin type-III domains (none of which contain an RGD sequence) and a hydrophobic C-terminal transmembranous helix. Expressed in a wide variety of tissues, FNDC3A localizes to Golgi vesicles and to the developing acrosome of spermatids. FNDC3A is believed to function in glycosaminoglycan and collagen synthesis. In mice, a mutation in the gene encoding FNDC3A causes male sterility due to defective adhesion between Sertoli cells and spermatids in the seminiferous epithelium. This suggests that FNDC3A plays an important role in spermatogenesis, possibly mediating or maintaining the adhesion between Sertoli cells and spermatids.

REFERENCES

1. Bonaldo, M.F., et al. 1996. Normalization and subtraction: two approaches to facilitate gene discovery. *Genome Res.* 6: 791-806.
2. Nagase, T., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 6: 63-70.
3. Nakajima, D., et al. 2002. Construction of expression-ready cDNA clones for KIAA genes: manual curation of 330 KIAA cDNA clones. *DNA Res.* 9: 99-106.
4. Olsen, J.V., et al. 2006. Global, *in vivo*, and site-specific phosphorylation dynamics in signaling networks. *Cell* 127: 635-648.
5. Obholz, K.L., et al. 2006. FNDC3A is required for adhesion between spermatids and Sertoli cells. *Dev. Biol.* 298: 498-513.
6. Carrouel, F., et al. 2008. HUGO (FNDC3A): a new gene overexpressed in human odontoblasts. *J. Dent. Res.* 87: 131-136.

CHROMOSOMAL LOCATION

Genetic locus: FNDC3A (human) mapping to 13q14.2.

PRODUCT

FNDC3A 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FNDC3A shRNA Plasmid (h): sc-62333-SH and FNDC3A shRNA (h) Lentiviral Particles: sc-62333-V as alternate gene silencing products.

For independent verification of FNDC3A (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-62333A, sc-62333B and sc-62333C.

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 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

FNDC3A siRNA (h) is recommended for the inhibition of FNDC3A 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 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.

GENE EXPRESSION MONITORING

FNDC3A (J-7): sc-100771 is recommended as a control antibody for monitoring of FNDC3A 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 FNDC3A gene expression knockdown using RT-PCR Primer: FNDC3A (h)-PR: sc-62333-PR (20 μ l). 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.