SANTA CRUZ BIOTECHNOLOGY, INC.

fibrillin-2 siRNA (h): sc-45971

BACKGROUND

Extracellular glycoproteins fibrillin-1 and -2 are major components of connective tissue microfibrils. Fibrillin-2 containing microfibrils regulate the early process of elastic fiber assembly in tissue. Mutations in the fibrillin-2 gene resulting in impaired assembly of fibrillin-2 may lead to molecular congenital contractural arachnodactyly. Fibrillin-2 constitutes the backbone of microfibrils which insert directly into the lamina densa of basement membranes. Epithelial cells primarily deposit fibrillin into the extracellular matrix in a nonfibrillar form. Mutations in the 8-cysteine motif of fibrillin-2 alters its binding to microfibril-associated glycoprotein-1 (MAGP-1), which may increase the severity of congenital contractural arachnodactyly.

REFERENCES

1. Mariencheck, M.C., et al. 1995. Fibrillin-1 and fibrillin-2 show temporal and tissue-specific regulation of expression in developing elastic tissues. Connect. Tissue Res. 31: 87-97.
2. Dzamba, B., et al. 2001. Assembly of epithelial cell fibrillins. J. Invest. Dermatol. 117: 1612-1620.
3. Lin, G., et al. 2002. Homo- and heterotypic fibrillin-1 and -2 interactions constitute the basis for the assembly of microfibrils. J. Biol. Chem. 277: 50795-50804.
4. Quondamatteo, F., et al. 2002. Fibrillin-1 and fibrillin-2 in human embryonic and early fetal development. Matrix Biol. 21: 637-646.
5. Ritty, T.M., et al. 2003. Fibrillin-1 and -2 contain heparin-binding sites important for matrix deposition and that support cell attachment. Biochem. J. 375: 425-432.
6. Werneck, C.C., et al. 2004. Identification of a major microfibril-associated glycoprotein-1-binding domain in fibrillin-2. J. Biol. Chem. 279: 23045-23051.
7. Tsuruga, E., et al. 2005. Microfibril-associated glycoprotein-1 and fibrillin-2 are associated with tropoelastin deposition *in vitro*. Int. J. Biochem. Cell Biol. 37: 120-129.
8. SWISS-PROT/TrEMBL (Q61555). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: FBN2 (human) mapping to 5q23.3.

PRODUCT

fibrillin-2 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 fibrillin-2 shRNA Plasmid (h): sc-45971-SH and fibrillin-2 shRNA (h) Lentiviral Particles: sc-45971-V as alternate gene silencing products.

For independent verification of fibrillin-2 (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-45971A, sc-45971B and sc-45971C.

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

fibrillin-2 siRNA (h) is recommended for the inhibition of fibrillin-2 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

fibrillin-2 (H-10): sc-393968 is recommended as a control antibody for monitoring of fibrillin-2 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 fibrillin-2 gene expression knockdown using RT-PCR Primer: fibrillin-2 (h)-PR: sc-45971-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Yu, Y., et al. 2020. Placensin is a glucogenic hormone secreted by human placenta. EMBO Rep. 21: e49530.

RESEARCH USE

For research use only, not for use in diagnostic procedures.