

# EMILIN-5 siRNA (h): sc-72272

## BACKGROUND

EMILINs (elastin microfibril interface located proteins) are extracellular matrix glycoproteins that localize to sites with proximity to elastin and microfibrils. They consist of an N-terminal cysteine rich EMI domain and a conserved C-terminal gC1q-like domain. EMILIN-1 is abundant in elastin-rich tissues such as blood vessels, skin, heart and lung. It influences placenta formation and initial organogenesis with a later role in interstitial connective tissue. EMILIN-2 is larger than EMILIN-1 and contains a unique proline-rich domain. It is likely involved in the process of elastogenesis. Multimerin-2 (also known as EMILIN-3 or EndoGlyx-1) is expressed during embryonic development. Multimerin-1 (also known as EMILIN-4) is expressed in platelets and the endothelium of blood vessels and may act as a carrier protein for platelet factor V. EMILIN-5 is encoded by the EMILIN3 gene and is sometimes referred to as EMILIN-3. It contains the N-terminal cysteine rich EMI domain but lacks the C-terminal gC1q-like domain. EMILIN-5 is expressed in human mesenchymal stem cells and plays an important role in skeletal development.

## REFERENCES

1. Doliana, R., et al. 1999. EMILIN, a component of the elastic fiber and a new member of the C1q/tumor necrosis factor superfamily of proteins. *J. Biol. Chem.* 274: 16773-16781.
2. Mongiat, M., et al. 2000. Self-assembly and supramolecular organization of EMILIN. *J. Biol. Chem.* 275: 25471-25480.
3. Doliana, R., et al. 2001. Isolation and characterization of EMILIN-2, a new component of the growing EMILINs family and a member of the EMI domain-containing superfamily. *J. Biol. Chem.* 276: 12003-12011.
4. Braghetta, P., et al. 2002. Expression of the EMILIN1 gene during mouse development. *Matrix Biol.* 21: 603-609.
5. Spessotto, P., et al. 2003.  $\beta$ 1 Integrin-dependent cell adhesion to EMILIN-1 is mediated by the gC1q domain. *J. Biol. Chem.* 278: 6160-6167.
6. Kishore, U., et al. 2004. C1q and tumor necrosis factor superfamily: modularity and versatility. *Trends Immunol.* 25: 551-561.

## CHROMOSOMAL LOCATION

Genetic locus: EMILIN3 (human) mapping to 20q12.

## PRODUCT

EMILIN-5 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EMILIN-5 shRNA Plasmid (h): sc-72272-SH and EMILIN-5 shRNA (h) Lentiviral Particles: sc-72272-V as alternate gene silencing products.

For independent verification of EMILIN-5 (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-72272A, sc-72272B and sc-72272C.

## RESEARCH USE

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

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

EMILIN-5 siRNA (h) is recommended for the inhibition of EMILIN-5 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  $\mu$ M in 66  $\mu$ 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

EMILIN-5 (F-11): sc-390777 is recommended as a control antibody for monitoring of EMILIN-5 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 EMILIN-5 gene expression knockdown using RT-PCR Primer: EMILIN-5 (h)-PR: sc-72272-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.