

EGFL7 siRNA (h): sc-45471

BACKGROUND

Epidermal growth factor (EGF) repeat-containing proteins constitute an expanding family of proteins that are involved in several cellular activities, such as blood coagulation, fibrinolysis, cell adhesion and neural and vertebrate development. A human EGF repeat superfamily member that maps to human chromosome X, EGFL6 encodes a predicted signal peptide, suggesting that it is secreted. EGFL6 is expressed in brain and lung tumors and fetal tissues, but is generally absent from normal adult tissues. EGFL7 is a secreted protein that regulates vascular tubulogenesis *in vivo*. *In vitro*, EGFL7 inhibits platelet-derived growth factor induced smooth muscle cell migration and promotes adhesion of endothelial cells to the substrate. EGFL7 is expressed specifically by endothelial cells of the heart, lung and kidney.

REFERENCES

1. Soncin, F., et al. 2003. VE-statin, an endothelial repressor of smooth muscle cell migration. *EMBO J.* 22: 5700-5711.
2. Fitch, M.J., et al. 2004. EGFL7, a novel epidermal growth factor-domain gene expressed in endothelial cells. *Dev. Dyn.* 230: 316-324.
3. Parker, L.H., et al. 2004. The endothelial-cell-derived secreted factor EGFL7 regulates vascular tube formation. *Nature* 428: 754-758.
4. Campagnolo, L., et al. 2005. EGFL7 is a chemoattractant for endothelial cells and is up-regulated in angiogenesis and arterial injury. *Am. J. Pathol.* 167: 275-284.
5. Caetano, B., et al. 2005. Expression and purification of recombinant vascular endothelial-statin. *Protein Expr. Purif.* 46: 136-142.
6. Jiang W.D., et al. 2006. siRNA inhibits EGFL7 expression in human endothelial cell line HUVEC. *Zhonghua Xin Xue Guan Bing Za Zhi* 34: 643-646.
7. Schmidt M., et al. 2007. EGFL7 regulates the collective migration of endothelial cells by restricting their spatial distribution. *Development* 134: 2913-2923.

CHROMOSOMAL LOCATION

Genetic locus: EGFL7 (human) mapping to 9q34.3.

PRODUCT

EGFL7 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 EGFL7 shRNA Plasmid (h): sc-45471-SH and EGFL7 shRNA (h) Lentiviral Particles: sc-45471-V as alternate gene silencing products.

For independent verification of EGFL7 (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-45471A, sc-45471B and sc-45471C.

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

EGFL7 siRNA (h) is recommended for the inhibition of EGFL7 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

EGFL7 (B-1): sc-373898 is recommended as a control antibody for monitoring of EGFL7 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 EGFL7 gene expression knockdown using RT-PCR Primer: EGFL7 (h)-PR: sc-45471-PR (20 μ l, 540 bp). 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.