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EG-VEGF siRNA (h): sc-45392

BACKGROUND

Endocrine gland-derived vascular endothelial growth factor (EG-VEGF) induces proliferation, migration and fenestration in capillary endothelial cells derived from endocrine glands. EG-VEGF possesses a HIF-1 binding site; its expression is induced by hypoxia and restricted to the steroidogenic glands (ovary, testis, adrenal and placenta). EG-VEGF expression is often complementary to the expression of VEGF, suggesting that these molecules function in a coordinated manner. EG-VEGF is an example of a class of highly specific mitogens that act to regulate proliferation and differentiation of the vascular endothelium in a tissue-specific manner. EG-VEGF is expressed largely in one type of tissue and acts selectively on one type of endothelium. EG-VEGF, possibly through binding to a G protein-coupled receptor, results in the activation of MAPK p44/42 and phosphatidylinositol 3-kinase signaling pathways, leading to proliferation, migration and survival of responsive endothelial cells.

REFERENCES

1. Carmeliet, P. 2001. Cardiovascular biology. Creating unique blood vessels. *Nature* 412: 868-869.
2. LeCouter, J., et al. 2001. Identification of an angiogenic mitogen selective for endocrine gland endothelium. *Nature* 412: 877-984.
3. Lin, R., et al. 2002. Characterization of endocrine gland-derived vascular endothelial growth factor signaling in adrenal cortex capillary endothelial cells. *J. Biol. Chem.* 277: 8724-8729.
4. Lin, D.C., et al. 2002. Identification and molecular characterization of two closely related G protein-coupled receptors activated by prokineticins/EG-VEGF. *J. Biol. Chem.* 277: 19276-19280.
5. Ferrara, N., et al. 2002. Endocrine gland vascular endothelial growth factor (EG-VEGF) and the hypothesis of tissue-specific regulation of angiogenesis. *Endocr. Res.* 28: 763-764.
6. Masuda, Y., et al. 2002. Isolation and identification of EG-VEGF/prokineticins as cognate ligands for two orphan G protein-coupled receptors. *Biochem. Biophys. Res. Commun.* 293: 396-402.

CHROMOSOMAL LOCATION

Genetic locus: PROK1 (human) mapping to 1p13.3.

PRODUCT

EG-VEGF 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 EG-VEGF shRNA Plasmid (h): sc-45392-SH and EG-VEGF shRNA (h) Lentiviral Particles: sc-45392-V as alternate gene silencing products.

For independent verification of EG-VEGF (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-45392A, sc-45392B and sc-45392C.

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 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

EG-VEGF siRNA (h) is recommended for the inhibition of EG-VEGF 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

EG-VEGF (E-12: sc-390741) is recommended as a control antibody for monitoring of EG-VEGF 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 EG-VEGF gene expression knockdown using RT-PCR Primer: EG-VEGF (h)-PR: sc-45392-PR (20 μ 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 for detailed protocols and support products.