SANTA CRUZ BIOTECHNOLOGY, INC.

VEGI siRNA (m): sc-39847

BACKGROUND

Vascular endothelial cell growth inhibitor (VEGI), also known as TNFRSF15 or TL1, is a member of the TNF superfamily. VEGI has a signaling pathway similar to TNF and is most likely a multifunctional cytokine. VEGI is found in brain, reproductive and late developmental stage embryonic tissues and is expressed predominantly in endothelial cells. It is an angiogenesis inhibitor of the TNF family and functions in part by directly inhibiting endothelial cell proliferation. VEGI may act as an autocrine factor to induce apoptosis in endothelial cells via activation of multiple signaling pathways, including stress protein kinases and certain caspases.

REFERENCES

1. Tan, K.B., et al. 1997. Characterization of a novel TNF-like ligand and recently described TNF ligand and TNF receptor superfamily genes and their constitutive and inducible expression in hematopoietic and non-hematopoietic cells. Gene 204: 35-46.
2. Haridas, V., et al. 1999. VEGI, a new member of the TNF family activates nuclear factor-κ B and c-Jun N-terminal kinase and modulates cell growth. Oncogene 18: 6496-6504.
3. Hu, S., et al. 1999. Characterization of TNFRSF19, a novel member of the tumor necrosis factor receptor superfamily. Genomics 62: 103-107.
4. Zhai, Y., et al. 1999. Inhibition of angiogenesis and breast cancer xenograft tumor growth by VEGI, a novel cytokine of the TNF superfamily. Int. J. Cancer 82: 131-136.
5. Zhai, Y., et al. 1999. VEGI, a novel cytokine of the tumor necrosis factor family, is an angiogenesis inhibitor that suppresses the growth of colon carcinomas *in vivo*. FASEB J. 13: 181-189.
6. Yue, T.L., et al. 1999. TL1, a novel tumor necrosis factor-like cytokine, induces apoptosis in endothelial cells. Involvement of activation of stress protein kinases (stress-activated protein kinase and p38 mitogen-activated protein kinase) and caspase-3-like protease. J. Biol. Chem. 274: 1479-1486.
7. Hampel, B., et al. 2006. Increased expression of extracellular proteins as a hallmark of human endothelial cell *in vitro* senescence. Exp. Gerontol. 41: 474-481.
8. Metheny-Barlow, L.J., et al. 2006. Vascular endothelial growth inhibitor (VEGI), an endogenous negative regulator of angiogenesis. Semin. Ophthalmol. 21: 49-58.
9. Parr, C., et al. 2006. Reduced vascular endothelial growth inhibitor (VEGI) expression is associated with poor prognosis in breast cancer patients. Angiogenesis 9: 73-81.

CHROMOSOMAL LOCATION

Genetic locus: Tnfsf15 (mouse) mapping to 4 C1.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

VEGI 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 VEGI shRNA Plasmid (h): sc-39846-SH and VEGI shRNA (h) Lentiviral Particles: sc-39846-V as alternate gene silencing products.

For independent verification of VEGI (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-39846A, sc-39846B and sc-39846C.

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

VEGI siRNA (m) is recommended for the inhibition of VEGI expression in mouse 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor VEGI gene expression knockdown using RT-PCR Primer: VEGI (m)-PR: sc-39847-PR (20 µl, 562 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Qian, L., et al. 2017. Activating transcription factor 3 (ATF3) protects against lipopolysaccharide-induced acute lung injury via inhibiting the expression of TL1A. J. Cell. Physiol. 232: 3727-3734.

RESEARCH USE

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