SANTA CRUZ BIOTECHNOLOGY, INC.

VG5Q siRNA (m): sc-61781

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Angiogenic factors are critical to the initiation of angiogenesis and maintenance of the vascular network. The angiogenic factor vasculogenesis gene on 5q (VG5Q, formally named AGGF1) binds to endothelial cells and promotes cell proliferation and angiogenesis. Suppression of VG5Q inhibits vessel formation. VG5Q may also play a role in the autocrine system. It is a secreted cytoplasmic protein that interacts with TWEAK (also designated TNFSF12), an angiogenic factor. VG5Q is widely expressed, but highest levels are detected in various types of endothelial cells, osteoblasts and in smooth muscle cells. Mutations in the VG5Q gene result in the vascular disease Klippel-Trenaunay syndrome (KTS), which results in asymmetric overgrowth.

REFERENCES

1. Tian, X.L., et al. 2004. Identification of an angiogenic factor that when mutated causes susceptibility to Klippel-Trenaunay syndrome. Nature 427: 640-645.
2. Timur, A.A., et al. 2005. Biomedicine and diseases: the Klippel-Trenaunay syndrome, vascular anomalies and vascular morphogenesis. Cell. Mol. Life Sci. 62: 1434-1447.
3. Callebaut, I. and Mornon, J.P. 2005. OCRE: a novel domain made of imperfect, aromatic-rich octamer repeats. Bioinformatics 21: 699-702.
4. Wang, Q.K. 2005. Update on the molecular genetics of vascular anomalies. Lymphat. Res. Biol. 3: 226-233.
5. Dereure, O. 2005. Klippel-Trenaunay syndrome: identification of a susceptibility gene coding for an angiogenic factor. Ann. Dermatol. Venereol. 132: 1037.
6. Barker, K.T., et al. 2006. Is the E133K allele of VG5Q associated with Klippel-Trenaunay and other overgrowth syndromes? J. Med. Genet. 43: 613-614.
7. Farina, A., et al. 2006. Evidence of genetic underexpression in chorionic villi samples of euploid fetuses with increased nuchal translucency at 10-11 weeks' gestation. Prenat. Diagn. 26: 128-133.

CHROMOSOMAL LOCATION

Genetic locus: Aggf1 (mouse) mapping to 13 D1.

PRODUCT

VG5Q siRNA (m) 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 VG5Q shRNA Plasmid (m): sc-61781-SH and VG5Q shRNA (m) Lentiviral Particles: sc-61781-V as alternate gene silencing products.

For independent verification of VG5Q (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61781A, sc-61781B and sc-61781C.

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 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

VG5Q siRNA (m) is recommended for the inhibition of VG5Q 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 VG5Q gene expression knockdown using RT-PCR Primer: VG5Q (m)-PR: sc-61781-PR (20 µl). 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.