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# Vangl1 siRNA (h): sc-45789

## BACKGROUND

The Vang family of proteins are integral membrane proteins that are homologues of the *Drosophila* tissue polarity gene strabismus. The gene encoding for Van Gogh-like protein 1 (Vangl1), also designated Strabismus 2 (STB2), localizes to human chromosome 1p11-p13.1. Van Gogh-like protein 2 (Vangl2), also designated Strabismus 1 (STB1), localizes to chromosome 1q22-q23. Vangl1 is expressed primarily in testis and ovary, but is also expressed in gastric and pancreatic cancer. Vangl proteins play a key developmental role in establishing planar cell polarity (PCP) and in regulating convergent extension (CE) movements during embryogenesis. Vangl1 and Vangl2 are both downregulated in several cancer cell lines and primary tumors.

## REFERENCES

1. Torban, E., et al. 2004. Independent mutations in mouse Vangl2 that cause neural tube defects in looptail mice impair interaction with members of the Dishevelled family. *J. Biol. Chem.* 279: 52703-52713.
2. Torban, E., et al. 2004. Van Gogh-like2 (Strabismus) and its role in planar cell polarity and convergent extension in vertebrates. *Trends. Genet.* 20: 570-577.
3. Lu, X., et al. 2004. PTK7/CCK-4 is a novel regulator of planar cell polarity in vertebrates. *Nature* 430: 93-98.
4. Jessen, J.R., et al. 2004. Identification and developmental expression pattern of Van Gogh-like 1, a second zebrafish strabismus homologue. *Gene Expr. Patterns* 4: 339-344.
5. Katoh, M., et al. 2005. Identification and characterization of rat Ankrd6 gene in silico. *Int. J. Mol. Med.* 15: 359-363.
6. Phillips, H.M., et al. 2005. Vangl2 acts via RhoA signaling to regulate polarized cell movements during development of the proximal outflow tract. *Circ. Res.* 96: 292-299.

## CHROMOSOMAL LOCATION

Genetic locus: VANGL1 (human) mapping to 1p13.1.

## PRODUCT

Vangl1 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 Vangl1 shRNA Plasmid (h): sc-45789-SH and Vangl1 shRNA (h) Lentiviral Particles: sc-45789-V as alternate gene silencing products.

For independent verification of Vangl1 (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-45789A, sc-45789B and sc-45789C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

Vangl1 siRNA (h) is recommended for the inhibition of Vangl1 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

Vangl1 (E-3): sc-166844 is recommended as a control antibody for monitoring of Vangl1 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 Vangl1 gene expression knockdown using RT-PCR Primer: Vangl1 (h)-PR: sc-45789-PR (20  $\mu$ l). 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.