



Vrho siRNA (h): sc-93813

BACKGROUND

Members of the rhomboid family of integral membrane proteins are related to *Drosophila* Rhomboid-1, a serine protease that cleaves the membrane domain of the *Drosophila* EGF-family protein, Spitz, to release a soluble growth factor. Vrho (ventrhold transmembrane protein), also known as RHBDL3 (rhomboid, veinlet-like 3), is a 404 amino acid multi-pass membrane protein that contains two EF-hand domains. Vrho is suggested to take part in regulating intramembrane proteolysis and the subsequent release of functional polypeptides from their membrane anchors. In *Drosophila melanogaster*, Vrho is related to a seven-pass transmembrane protein called Rhomboid, which acts as an important positive modulator of EGF signaling thereby playing a significant role in the structuring of ventral neuroectoderm and fate specification of neuroblasts. Vrho is encoded by a gene located on human chromosome 17q11.2.

REFERENCES

- Urban, S., Lee, J.R. and Freeman, M. 2001. *Drosophila* rhomboid-1 defines a family of putative intramembrane serine proteases. *Cell* 107: 173-182.
- Urban, S., Lee, J.R. and Freeman, M. 2002. A family of Rhomboid intramembrane proteases activates all *Drosophila* membrane-tethered EGF ligands. *EMBO J.* 21: 4277-4286.
- Jászai, J. and Brand, M. 2002. Cloning and expression of Ventrhold, a novel vertebrate homologue of the *Drosophila* EGF pathway gene rhomboid. *Mech. Dev.* 113: 73-77.
- Urban, S. and Freeman, M. 2003. Substrate specificity of rhomboid intramembrane proteases is governed by helix-breaking residues in the substrate transmembrane domain. *Mol. Cell* 11: 1425-1434.
- Urban, S. 2006. Rhomboid proteins: conserved membrane proteases with divergent biological functions. *Genes Dev.* 20: 3054-3068.
- Suela, J., Largo, C., Ferreira, B., Alvarez, S., Robledo, M., González-Neira, A., Calasanz, M.J. and Cigudosa, J.C. 2007. Neurofibromatosis 1, and not TP53, seems to be the main target of chromosome 17 deletions in *de novo* acute myeloid leukemia. *J. Clin. Oncol.* 25: 1151-1152.

CHROMOSOMAL LOCATION

Genetic locus: RHBDL3 (human) mapping to 17q11.2.

PRODUCT

Vrho 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 Vrho shRNA Plasmid (h): sc-93813-SH and Vrho shRNA (h) Lentiviral Particles: sc-93813-V as alternate gene silencing products.

For independent verification of Vrho (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-93813A, sc-93813B and sc-93813C.

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

Vrho siRNA (h) is recommended for the inhibition of Vrho 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Vrho gene expression knockdown using RT-PCR Primer: Vrho (h)-PR: sc-93813-PR (20 μ l, 600 bp). 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.