

## RHBDL6 siRNA (h): sc-93694

### 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. Rhomboid veinlet-like protein 6 (RHBDL6) is a 856 amino acid multi-pass endoplasmic reticulum membrane protein belonging to the rhomboid family. As an intramembrane protein, RHBDL6 has no protease activity but regulates the secretion of several ligands of the epidermal growth factor receptor. RHBDL6 may also indirectly activate the epidermal growth factor receptor signaling pathway and may thereby regulate sleep, cell survival, proliferation and migration. RHBDL6 can exist as two isoforms due to alternative splicing events. RHBDL6 is encoded by a gene mapping to human chromosome 17p25.1.

### REFERENCES

- Urban, S., et al. 2001. *Drosophila* Rhomboid-1 defines a family of putative intramembrane serine proteases. *Cell* 107: 173-182.
- Urban, S., et al. 2002. A family of Rhomboid intramembrane proteases activates all *Drosophila* membrane-tethered EGF ligands. *EMBO J.* 21: 4277-4286.
- Urban, S., et al. 2003. Substrate specificity of Rhomboid intramembrane proteases is governed by helix-breaking residues in the substrate transmembrane domain. *Mol. Cell* 11: 1425-1434.
- Pascall, J.C., et al. 2004. Intramembrane cleavage of ephrinB3 by the human Rhomboid family protease, RHBDL2. *Biochem. Biophys. Res. Commun.* 317: 244-252.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608962. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Urban, S. 2006. Rhomboid proteins: conserved membrane proteases with divergent biological functions. *Genes Dev.* 20: 3054-3068.

### CHROMOSOMAL LOCATION

Genetic locus: RHBDL6 (human) mapping to 17q25.1.

### PRODUCT

RHBDL6 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 RHBDL6 shRNA Plasmid (h): sc-93694-SH and RHBDL6 shRNA (h) Lentiviral Particles: sc-93694-V as alternate gene silencing products.

For independent verification of RHBDL6 (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-93694A, sc-93694B and sc-93694C.

### 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

RHBDL6 siRNA (h) is recommended for the inhibition of RHBDL6 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.

### RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RHBDL6 gene expression knockdown using RT-PCR Primer: RHBDL6 (h)-PR: sc-93694-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.