

## RAI3 siRNA (h): sc-61440

### BACKGROUND

Retinoic acid-induced protein 3 (RAI3) is an transmembrane G protein-coupled receptor that affects many essential biological processes including embryogenesis, cell growth, differentiation, and apoptosis. RAI3 may also be involved in maintaining homeostasis of epithelial cells. Retinoic acid receptors directly regulate RAI3 during its transcription in embryonal carcinoma differentiation. RAI3 expression is upregulated in most tumor cell lines that express mutant p53, suggesting that p53 interacts with the promoter of RAI3 and represses its expression at the beginning of apoptosis. RAI3 is a potential molecular target for diagnosing breast cancer, and selective suppression of signals from RAI3 may have a place in breast cancer treatments.

### REFERENCES

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- Bräuner-Osborne, H., et al. 2000. Sequence and expression pattern of a novel human orphan G protein-coupled receptor, GPRC5B, a family C receptor with a short amino-terminal domain. *Genomics* 65: 121-128.
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- Hofmann, W.K., et al. 2002. Characterization of gene expression of CD34<sup>+</sup> cells from normal and myelodysplastic bone marrow. *Blood* 100: 3553-3560.
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- Tao, Q., et al. 2004. Characterization of the murine orphan G protein-coupled receptor gene RAI3 and its regulation by retinoic acid. *Genomics* 83: 270-280.
- Wu, Q., et al. 2005. Integrative genomics revealed RAI3 is a cell growth-promoting gene and a novel P53 transcriptional target. *J. Biol. Chem.* 280: 12935-12943.
- Nagahata, T., et al. 2005. Identification of RAI3 as a therapeutic target for breast cancer. *Endocr. Relat. Cancer* 12: 65-73.

### CHROMOSOMAL LOCATION

Genetic locus: GPRC5A (human) mapping to 12p13.1.

### PRODUCT

AI3 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 RAI3 shRNA Plasmid (h): sc-61440-SH and RAI3 shRNA (h) Lentiviral Particles: sc-61440-V as alternate gene silencing products.

For independent verification of RAI3 (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-61440A, sc-61440B and sc-61440C.

### 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

RAI3 siRNA (h) is recommended for the inhibition of RAI3 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

RAI3 (A-11): sc-390263 is recommended as a control antibody for monitoring of RAI3 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 RAI3 gene expression knockdown using RT-PCR Primer: RAI3 (h)-PR: sc-61440-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.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.