SANTA CRUZ BIOTECHNOLOGY, INC.

AGR2 siRNA (h): sc-61956

BACKGROUND

AGR2 (anterior gradient protein 2), also known as AG2, GOB-4 or HAG-2, is a member of the anterior gradient homolog family. It is the human ortholog of XAG-2, the secreted *Xenopus laevis* anterior gradient protein. In *X. laevis*, it is involved in cement gland differentiation and neural marker gene expression. AGR2 is a secretory protein encoded by two different AGR2 transcripts. It interacts with LYPD3 and α-dystroglycan (DAG-1). AGR2 is ubiquitously expressed with upregulated expression in prostate cancer, breast cancer, lung cancer, renal carcinomas and endometrial carcinomas. AGR2 expression is positively correlated with that of the estrogen receptor (ER) and is negatively correlated with that of the epidermal growth factor receptor (EGFR). AGR2 may serve as a potential therapeutic marker for various cancers.

REFERENCES

1. Huber, M., et al. 2004. Comparison of proteomic and genomic analyses of the human breast cancer cell line T-47D and the antiestrogen-resistant derivative T-47D-r. Mol. Cell. Proteomics 3: 43-55.
2. Liu, D., et al. 2005. Human homologue of cement gland protein, a novel metastasis inducer associated with breast carcinomas. Cancer Res. 65: 3796-3805.
3. Zhang, J.S., et al. 2005. AGR2, an androgen-inducible secretory protein overexpressed in prostate cancer. Genes Chromosomes Cancer 43: 249-259.
4. Zheng, W., et al. 2006. Evaluation of AGR2 and AGR3 as candidate genes for inflammatory bowel disease. Genes Immun. 7: 11-18.
5. Zhu, H., et al. 2006. High resolution analysis of genomic aberrations by metaphase and array comparative genomic hybridization identifies candidate tumour genes in lung cancer cell lines. Cancer Lett. 245: 303-314.
6. Innes, H.E., et al. 2006. Significance of the metastasis-inducing protein AGR2 for outcome in hormonally treated breast cancer patients. Br. J. Cancer 94: 1057-1065.
7. Durand, G., et al. 2006. Detection of new methicillin-resistant *Staphylococcus aureus* clones containing the toxic shock syndrome toxin 1 gene responsible for hospital- and community-acquired infections in France. J. Clin. Microbiol. 44: 847-853.

CHROMOSOMAL LOCATION

Genetic locus: AGR2 (human) mapping to 7p21.1.

PRODUCT

AGR2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see AGR2 shRNA Plasmid (h): sc-61956-SH and AGR2 shRNA (h) Lentiviral Particles: sc-61956-V as alternate gene silencing products.

For independent verification of AGR2 (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-61956A, sc-61956B and sc-61956C.

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

AGR2 siRNA (h) is recommended for the inhibition of AGR2 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 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.

GENE EXPRESSION MONITORING

AGR2 (6C5): sc-101211 is recommended as a control antibody for monitoring of AGR2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 AGR2 gene expression knockdown using RT-PCR Primer: AGR2 (h)-PR: sc-61956-PR (20 µl). 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 for detailed protocols and support products.