SANTA CRUZ BIOTECHNOLOGY, INC.

RCAS1 siRNA (m): sc-37494

BACKGROUND

RCAS1/EBAG9 (receptor-binding cancer antigen expressed on SiSo cells/estrogen receptor-binding fragment-associated gene 9) is an estrogen-transcribed protein. Soluble and membranous RCAS1 proteins may play a role in the immune escape of tumor cells by promoting T lymphocyte inhibition of growth and apoptosis. RCAS1 is expressed in a wide variety of cancers, including uterine, ovarian, and lung cancer cells, and acts as a ligand for a putative receptor present on peripheral lymphocytes. RCAS1 is highly expressed not only in cancer cells but also in non-tumor bile duct cells subject to immune attack. RCAS1 inhibits the *in vitro* growth of receptor-expressing cells and induces apoptosis, contributing to the ability of tumor cells to evade host immune surveillance. High expression of RCAS1 significantly correlates with tumor progression and with poor outcome for many cancer patients. The human RCAS1/EBAG9 gene maps to human chromosome 8q23.2.

REFERENCES

1. Tsuneizumi, M., et al. 2002. A highly polymorphic CA repeat marker at the EBAG9/RCAS1 locus on 8q23 that detected frequent multiplication in breast cancer. Ann. Hum. Biol. 29: 457-460.
2. Rousseau, J., et al. 2002. RCAS1 is associated with ductal breast cancer progression. Biochem. Biophys. Res. Commun. 293: 1544-1549.
3. Oizumi, S., et al. 2002. RCAS1 expression: a potential prognostic marker for adenocarcinomas of the lung. Oncology 62: 333-339.
4. Enjoji, M., et al. 2002. The tumor-associated antigen, RCAS1, can be expressed in immune-mediated diseases as well as in carcinomas of biliary tract. J. Hepatol. 36: 786-792.
5. Hiraoka, K., et al. 2002. High expression of tumor-associated antigen RCAS1 in pancreatic ductal adenocarcinoma is an unfavorable prognostic marker. Int. J. Cancer 99: 418-423.
6. LocusLink Report (LocusID: 9166). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Ebag9 (mouse) mapping to 15 B3.2.

PRODUCT

RCAS1 siRNA (m) 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 RCAS1 shRNA Plasmid (m): sc-37494-SH and RCAS1 shRNA (m) Lentiviral Particles: sc-37494-V as alternate gene silencing products.

For independent verification of RCAS1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-37494A, sc-37494B and sc-37494C.

PROTOCOLS

See our web site at 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 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

RCAS1 siRNA (m) is recommended for the inhibition of RCAS1 expression in mouse 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

RCAS1 (D-9): sc-398052 is recommended as a control antibody for monitoring of RCAS1 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 RCAS1 gene expression knockdown using RT-PCR Primer: RCAS1 (m)-PR: sc-37494-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.