SANTA CRUZ BIOTECHNOLOGY, INC.

CEACAM16 siRNA (h): sc-97146

BACKGROUND

Carcinoembryonic antigen (CEA) is one of the most commonly used tumor markers in serum immunoassay determinations of carcinoma. Members of the CEACAM (carcinoembryonic antigen-related cell adhesion molecule) family contain a single N domain, with structural homology to the immunoglobulin variable domains, followed by a variable number of immunoglobulin constant-like A and/or B domains. CEACAM proteins are involved in immune responses, host/pathogen interactions and controlling tissue homeostasis. As one of several members of the CEACAM family, CEACAM16 (carcinoembryonic antigen-related cell adhesion molecule 16), also known as carcinoembryonic antigen-like 2, is a 484 amino acid single-pass transmembrane protein that contains two Ig-like C2-type domains.

REFERENCES

1. Thompson, J., et al. 1988. The carcinoembryonic antigen gene family: structure, expression and evolution. Tumour Biol. 9: 63-83.
2. Thompson, J.A., et al. 1991. Carcinoembryonic antigen gene family: molecular biology and clinical perspectives. J. Clin. Lab. Anal. 5: 344-366.
3. Rudert, F., et al. 1992. Characterization of murine carcinoembryonic antigen gene family members. Mamm. Genome 3: 262-273.
4. Thompson, J.A. 1995. Molecular cloning and expression of carcinoembryonic antigen gene family members. Tumour Biol. 16: 10-16.
5. Hammarström, S. 1999. The carcinoembryonic antigen (CEA) family: structures, suggested functions and expression in normal and malignant tissues. Semin. Cancer Biol. 9: 67-81.
6. Zebhauser, R., et al. 2005. Identification of a novel group of evolutionarily conserved members within the rapidly diverging murine Cea family. Genomics 86: 566-580.
7. Muenzner, P., et al. 2008. The CEACAM1 transmembrane domain, but not the cytoplasmic domain, directs internalization of human pathogens via membrane microdomains. Cell. Microbiol. 10: 1074-1092.
8. Serra, S., et al. 2009. CEACAM1 expression in pancreatic endocrine tumors. Appl. Immunohistochem. Mol. Morphol. 17: 286-293.

CHROMOSOMAL LOCATION

Genetic locus: CEACAM16 (human) mapping to 19q13.32.

PRODUCT

CEACAM16 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 CEACAM16 shRNA Plasmid (h): sc-97146-SH and CEACAM16 shRNA (h) Lentiviral Particles: sc-97146-V as alternate gene silencing products.

For independent verification of CEACAM16 (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-97146A, sc-97146B and sc-97146C.

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

CEACAM16 siRNA (h) is recommended for the inhibition of CEACAM16 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

CEACAM16 (A-4): sc-514335 is recommended as a control antibody for monitoring of CEACAM16 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 CEACAM16 gene expression knockdown using RT-PCR Primer: CEACAM16 (h)-PR: sc-97146-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.