

CEACAM20 siRNA (h): sc-97482

BACKGROUND

Carcinoembryonic antigen (CEA) is one of the most commonly used tumor markers in serum immunoassay determinations of carcinoma. Members of the CEA 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. CEACAM20 (carcinoembryonic antigen-related cell adhesion molecule 20) is a 585 amino acid single-pass type I membrane protein that contains four Ig-like C2-type domains and belongs to the CEA family of immunoglobulin-like proteins. The gene encoding CEACAM20 maps to human chromosome 19, which is the genetic home for a number of immunoglobulin superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the PSG family and Fc receptors (FcRs).

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. Skubitz, K.M., et al. 2001. Synthetic peptides from the N-domains of CEACAMs activate neutrophils. *J. Pept. Res.* 58: 515-526.
5. Thorp, E.B., et al. 2004. Requirements for CEACAMs and cholesterol during murine coronavirus cell entry. *J. Virol.* 78: 2682-2692.
6. Kuespert, K., et al. 2006. CEACAMs: their role in physiology and pathophysiology. *Curr. Opin. Cell Biol.* 18: 565-571.
7. Callaghan, M.J., et al. 2008. Haplotypic diversity in human CEACAM genes: effects on susceptibility to meningococcal disease. *Genes Immun.* 9: 30-37.

CHROMOSOMAL LOCATION

Genetic locus: CEACAM20 (human) mapping to 19q13.31.

PRODUCT

CEACAM20 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CEACAM20 shRNA Plasmid (h): sc-97482-SH and CEACAM20 shRNA (h) Lentiviral Particles: sc-97482-V as alternate gene silencing products.

For independent verification of CEACAM20 (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-97482A, sc-97482B and sc-97482C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CEACAM20 siRNA (h) is recommended for the inhibition of CEACAM20 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 μ M in 66 μ 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

CEACAM20 (HT-12D8): sc-101374 is recommended as a control antibody for monitoring of CEACAM20 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 κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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 CEACAM20 gene expression knockdown using RT-PCR Primer: CEACAM20 (h)-PR: sc-97482-PR (20 μ 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.