



CEACAM3 siRNA (h): sc-43030

BACKGROUND

The CD66 immunoglobulin superfamily of genes, also designated the carcinoembryonic antigen (CEA), biliary glycoprotein I (BGP-1) or CECAM family, encode cell adhesion proteins, which are expressed at higher levels in tumorous tissues than in normal tissues. CD66/CEA mRNA is strongly expressed in primary colon tumors and, to a lesser extent, in normal colonic tissue. The human CD66/CEA gene family is a diverse set of glycoproteins of epithelial and hematopoietic lineage that comprises 29 genes, which map to chromosome position 19q13.2. CD66A, CD66B, CD66C, CD66D, CD66E and CD66F are the best characterized CD66 antigens and CD66A-D expression upregulates on the surface of granulocytes upon stimulation. CD66/CEA isoforms mediate homotypic and heterotypic intercellular adhesion events independently of cell type.

REFERENCES

1. Zimmermann, W., et al. 1987. Isolation and characterization of cDNA clones encoding the human carcinoembryonic antigen reveal a highly conserved repeating structure. *Proc. Natl. Acad. Sci. USA* 84: 2960-2964.
2. Barnett, T., et al. 1988. Carcinoembryonic antigen family: characterization of cDNAs coding for NCA and CEA and suggestion of nonrandom sequence variation in their conserved loop-domains. *Genomics* 3: 59-66.
3. Barnett, T.R., et al. 1989. Carcinoembryonic antigens: alternative splicing accounts for the multiple mRNAs that code for novel members of the carcinoembryonic antigen family. *J. Cell Biol.* 108: 267-276.
4. Schrewe, H., et al. 1990. Cloning of the complete gene for carcinoembryonic antigen: analysis of its promoter indicates a region conveying cell type-specific expression. *Mol. Cell. Biol.* 10: 2738-2748.
5. Tynan, K., et al. 1992. Assembly and analysis of cosmid contigs in the CEA-gene family region of human chromosome 19. *Nucleic Acids Res.* 20: 1629-1636.
6. Barnett, T.R., et al. 1993. Human biliary glycoprotein gene: characterization of a family of novel alternatively spliced RNAs and their expressed proteins. *Mol. Cell. Biol.* 13: 1273-1282.
7. Skubitz, K., et al. 1995. CD66 family members are associated with tyrosine kinase activity in human neutrophils. *J. Immunol.* 155: 5382-5390.
8. Zimmer, R. and Thomas, P. 2001. Mutations in the carcinoembryonic antigen gene in colorectal cancer patients: implications on liver metastasis. *Cancer Res.* 61: 2822-2826.

CHROMOSOMAL LOCATION

Genetic locus: CEACAM3 (human) mapping to 19q13.2.

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.

PRODUCT

CEACAM3 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 CEACAM3 shRNA Plasmid (h): sc-43030-SH and CEACAM3 shRNA (h) Lentiviral Particles: sc-43030-V as alternate gene silencing products.

For independent verification of CEACAM3 (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-43030A, sc-43030B and sc-43030C.

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

CEACAM3 siRNA (h) is recommended for the inhibition of CEACAM3 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CEACAM3 gene expression knockdown using RT-PCR Primer: CEACAM3 (h)-PR: sc-43030-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.