

CEACAM1/2 siRNA (m): sc-29846

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. CEACAM1/2 (carcinoembryonic antigen-related cell adhesion molecule 1), also known as BGP or BGP1, is a 526 amino acid protein that exists as 7 alternatively spliced isoforms, some of which localize to the cell membranes, while others are secreted. One of several members of the CEACAM family, CEACAM1/2 contains one Ig-like V-type domain and three Ig-like C2-type domains and is thought to play a role in a variety of cellular activities, including angiogenesis, apoptosis, arrangement of tissue three-dimensional structure and modulation of innate and adaptive immune responses. Additionally, CEACAM1/2 is underexpressed in colorectal cancers, suggesting a role in tumor suppression.

REFERENCES

1. 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.
2. Skubitz, K.M., et al. 2008. Interdependency of CEACAM-1, -3, -6, and -8 induced human neutrophil adhesion to endothelial cells. *J. Transl. Med.* 6: 78.
3. Lee, H.S., et al. 2008. CEACAM1 dynamics during *Neisseria gonorrhoeae* suppression of CD4⁺ T lymphocyte activation. *J. Immunol.* 180: 6827-6835.
4. Gaur, S., et al. 2008. Altered splicing of CEACAM1 in breast cancer: identification of regulatory sequences that control splicing of CEACAM1 into long or short cytoplasmic domain isoforms. *Mol. Cancer* 7: 46.

CHROMOSOMAL LOCATION

Genetic locus: Ceacam1/2 (mouse) mapping to 7 A3.

PRODUCT

CEACAM1/2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CEACAM1/2 shRNA Plasmid (m): sc-29846-SH and CEACAM1/2 shRNA (m) Lentiviral Particles: sc-29846-V as alternate gene silencing products.

For independent verification of CEACAM1/2 (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-29846A, sc-29846B and sc-29846C.

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

CEACAM1/2 siRNA (m) is recommended for the inhibition of CEACAM1/2 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 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

CEACAM1/2 (E-12): sc-365126 is recommended as a control antibody for monitoring of CEACAM1/2 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 CEACAM1/2 gene expression knockdown using RT-PCR Primer: CEACAM1/2 (m)-PR: sc-29846-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.