SANTA CRUZ BIOTECHNOLOGY, INC.

CEACAM4 siRNA (h): sc-97236

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. CEACAM4 (carcinoembryonic antigen-related cell adhesion molecule 4), also known as carcinoembryonic antigen CGM7 or non-specific cross-reacting antigen W236, is a 244 amino acid single-pass type I membrane protein that belongs to the CEA family and immunoglobulin superfamily. Expressed in granulocytes, CEACAM4 contains one Ig-like V-type (immunoglobulin-like) domain and is encoded by a gene that maps to human chromosome 19.

REFERENCES

1. Terry, W.D., et al. 1974. Characterization of human carcinoembryonic antigens. Johns Hopkins Med. J. Suppl. 3: 241-247.
2. Rogers, G.T. 1983. Carcinoembryonic antigens and related glycoproteins. Molecular aspects and specificity. Biochim. Biophys. Acta 695: 227-249.
3. Hinoda, Y. and Imai, K. 1990. Carcinoembryonic antigen gene family and its clinical application. Gan To Kagaku Ryoho 17: 1274-1280.
4. Kuroki, M., et al. 1991. Molecular cloning of nonspecific cross-reacting antigens in human granulocytes. J. Biol. Chem. 266: 11810-11817.
5. Brandriff, B.F., et al. 1992. Order and genomic distances among members of the carcinoembryonic antigen (CEA) gene family determined by fluorescence *in situ* hybridization. Genomics 12: 773-779.
6. Teglund, S., et al. 1994. The pregnancy-specific glycoprotein (PSG) gene cluster on human chromosome 19: fine structure of the 11 PSG genes and identification of 6 new genes forming a third subgroup within the carcinoembryonic antigen (CEA) family. Genomics 23: 669-684.
7. Kataoka, K., et al. 2000. A carcinoembryonic antigen family cDNA from mouse placenta encoding a protein with a rare domain composition. Placenta 21: 610-614.

CHROMOSOMAL LOCATION

Genetic locus: CEACAM4 (human) mapping to 19q13.2.

PRODUCT

CEACAM4 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 CEACAM4 shRNA Plasmid (h): sc-97236-SH and CEACAM4 shRNA (h) Lentiviral Particles: sc-97236-V as alternate gene silencing products.

For independent verification of CEACAM4 (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-97236A, sc-97236B and sc-97236C.

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

CEACAM4 siRNA (h) is recommended for the inhibition of CEACAM4 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CEACAM4 gene expression knockdown using RT-PCR Primer: CEACAM4 (h)-PR: sc-97236-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.