SANTA CRUZ BIOTECHNOLOGY, INC.

ICAM-3 siRNA (h): sc-35628

BACKGROUND

Cell adhesion molecules (CAMs) are a family of closely related cell surface glycoproteins involved in cell-cell interactions during growth. These proteins are thought to play an important role in embryogenesis and development. ICAM-3, also designated CD50 and ICAM-R, is a type I membrane protein that is thought to regulate morphological changes during cell locomotion. ICAM-3 acts as a counter-receptor for the leukocyte Integrin $\alpha L/\beta 2$, and is known to activate T cells and polymorphonuclear leukocytes. ICAM-3 also binds to Moesin, via the cytoplasmic domain of ICAM-3. The expression of ICAM-3 is induced by RANTES, a chemoattractant known to activate T lymphocytes. ICAM-3 is also a major ligand for the leukocyte Integrin LFA-1 (CD11a/CD18).

REFERENCES

1. Fawcett, J., et al. 1992. Molecular cloning of ICAM-3, a third ligand for LFA-1, constitutively expressed on resting leukocytes. Nature 360: 481-484.
2. Serrador, J.M., et al. 1997. Moesin interacts with the cytoplasmic region of intercellular adhesion molecule-3 and is redistributed to the uropod of T lymphocytes during cell polarization. J. Cell Biol. 138: 1409-1423.
3. Szabo, M.C., et al. 1997. RANTES stimulation of T lymphocyte adhesion and activation: role for LPA-1 and ICAM-3. Eur. J. Immunol. 27: 1061-1068.
4. Hayflick, J.S., et al. 1998. The intercellular adhesion molecule (ICAM) family of proteins. New members and novel functions. Immunol. Res. 17: 313-327.
5. Bell, E.D., et al. 1998. The leukocyte function-associated antigen-1 (LFA-1)-binding site on ICAM-3 comprises residues on both faces of the first immunoglobulin domain. J. Immunol. 161: 1363-1370.
6. Feldhaus, M.J., et al. 1998. Engagement of ICAM-3 activates polymorphonuclear leukocytes: aggregation without degranulation or $\beta 2$ Integrin recruitment. J. Immunol. 161: 6280-6287.

CHROMOSOMAL LOCATION

Genetic locus: ICAM3 (human) mapping to 19p13.2.

PRODUCT

ICAM-3 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 ICAM-3 shRNA Plasmid (h): sc-35628-SH and ICAM-3 shRNA (h) Lentiviral Particles: sc-35628-V as alternate gene silencing products.

For independent verification of ICAM-3 (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-35628A, sc-35628B and sc-35628C.

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 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

ICAM-3 siRNA (h) is recommended for the inhibition of ICAM-3 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

ICAM-3 (CG106): sc-53338 is recommended as a control antibody for monitoring of ICAM-3 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 ICAM-3 gene expression knockdown using RT-PCR Primer: ICAM-3 (h)-PR: sc-35628-PR (20 µl, 529 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECE PRODUCT CITATIONS

1. Chung, Y.M., et al. 2005. Increased expression of ICAM-3 is associated with radiation resistance in cervical cancer. Int. J. Cancer 117: 194-201.

RESEARCH USE

For research use only, not for use in diagnostic procedures.