SANTA CRUZ BIOTECHNOLOGY, INC.

Endomucin siRNA (h): sc-43156

BACKGROUND

Mucin-like membrane glycoproteins contain many serine and threonine residues, which carry large amounts of O-linked glycans, forcing the molecule into an extended structure. Endomucin, also known as EMCN or Mucin-14, is a 261 amino acid protein which contains a transmembrane sequence and multiple glycosylation sites. Human Endomucin, which is highly expressed in vascular tissues such as heart, kidney and lung, exists as both an unprocessed precursor peptide and as a 241 amino acid processed protein, known as Endomucin 2. Mouse Endomucin is an endothelial antigen found in venous endothelium, as well as capillaries, but not on arterial endothelium. Endomucin expression is increased while endothelial cells are proliferating or are stimulated by tumor-conditioned media or specific angiogenic factors such as bFGF (basic fibroblast growth factor) and TNFα. Overexpression of Endomucin inhibits adhesion and aggregation of hematopoietic cells, suggesting that Endomucin may play a role in detachment of hematopoietic cells from endothelium during early hematopoiesis.

REFERENCES

1. Cyster, J.G., et al. 1991. The dimensions of the T lymphocyte glycoprotein leukosialin and identification of linear protein epitopes that can be modified by glycosylation. EMBO J. 10: 893-902.
2. Morgan, S.M., et al. 1999. Biochemical characterization and molecular cloning of a novel endothelial-specific sialomucin. Blood 93: 1165-175.
3. Ueno, M., et al. 2001. Endomucin is expressed in embryonic dorsal aorta and is able to inhibit cell adhesion. Biochem. Biophys. Res. Commun. 287: 501-506.
4. Liu, C., et al. 2001. Human Endomucin is an endothelial marker. Biochem. Biophys. Res. Commun. 288: 129-136.
5. Kinoshita, M., et al. 2001. Identification of human Endomucin-1 and -2 as membrane-bound O-sialoglycoproteins with anti-adhesive activity. FEBS Lett. 499: 121-126.
6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 608350. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: EMCN (human) mapping to 4q24.

PRODUCT

Endomucin 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 Endomucin shRNA Plasmid (h): sc-43156-SH and Endomucin shRNA (h) Lentiviral Particles: sc-43156-V as alternate gene silencing products.

For independent verification of Endomucin (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-43156A, sc-43156B and sc-43156C.

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

Endomucin siRNA (h) is recommended for the inhibition of Endomucin 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 Endomucin gene expression knockdown using RT-PCR Primer: Endomucin (h)-PR: sc-43156-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.