SANTA CRUZ BIOTECHNOLOGY, INC.

MEGF10 siRNA (m): sc-61910

BACKGROUND

MEGF10 (multiple epidermal growth factor-like domains 10) is a 1,140 amino acid protein encoded by the human gene MEGF10. MEGF10 belongs to the MEGF family and contains fifteen EGF-like domains and one EMI domain. The engulfment of dying cells is a specialized form of phagocytosis that is highly conserved across evolution and is mediated by the concerted action of several molecules. MEGF10 is an engulfment receptor protein that localizes to the plasma membrane in a punctuated pattern. The MEGF10 protein shares structural similarities with nematode engulfment receptor cell death abnormal-1 (CED-1). MEGF10 function is modulated by the ATP binding cassette transporter ABCA1, which is an ortholog to CED-7. It is expressed at the cell surface in clusters around cell corpses during engulfment, and during the engulfment of apoptotic thymocytes is recruited to the bottom of the forming phagocytic cup.

REFERENCES

1. Nagase, T., Nakayama, M., Nakajima, D., Kikuno, R. and Ohara, O. 2001. Prediction of the coding sequences of unidentified human genes. XX. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 8: 85-95.
2. Mangahas, P.M. and Zhou, Z. 2005. Clearance of apoptotic cells in *Caenorhabditis elegans*. Semin. Cell Dev. Biol. 16: 295-306.
3. Yu, X., Odera, S., Chuang, C.H., Lu, N. and Zhou, Z. 2006. *C. elegans* Dynamin mediates the signaling of phagocytic receptor CED-1 for the engulfment and degradation of apoptotic cells. Dev. Cell 10: 743-757.
4. Hamon, Y., Trompier, D., Ma, Z., Venegas, V., Pophillat, M., Mignotte, V., Zhou, Z. and Chimini, G. 2007. Cooperation between engulfment receptors: the case of ABCA1 and MEGF10. PLoS ONE 1: e120.
5. Krivtsov, A.V., Rozov, F.N., Zinovyeva, M.V., Hendrikx, P.J., Jiang, Y., Visser, J.W. and Belyavsky, A.V. 2007. Jedi—a novel transmembrane protein expressed in early hematopoietic cells. J. Cell. Biochem. 101: 767-784.

CHROMOSOMAL LOCATION

Genetic locus: Megf10 (mouse) mapping to 18 D3.

PRODUCT

MEGF10 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MEGF10 shRNA Plasmid (m): sc-61910-SH and MEGF10 shRNA (m) Lentiviral Particles: sc-61910-V as alternate gene silencing products.

For independent verification of MEGF10 (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-61910A, sc-61910B and sc-61910C.

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

MEGF10 siRNA (m) is recommended for the inhibition of MEGF10 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 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 MEGF10 gene expression knockdown using RT-PCR Primer: MEGF10 (m)-PR: sc-61910-PR (20 µl, 467 bp). 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.