

Endo180 siRNA (h): sc-62276

BACKGROUND

Endo180 (endocytic receptor 180), also known as macrophage mannose receptor C type 2 (MRC2), urokinase plasminogen activator receptor-associated protein (uPARAP) or CD280 antigen, is a ubiquitously expressed, type I membrane protein with predominant expression in fetal lung and kidney. The extracellular domain of Endo180 contains a fibronectin type II domain, eight C-type lectin domains and a cysteine-rich domain. Endo180 functions as a cell surface receptor and mediates collagen matrix remodeling as well as cell migration by playing a role in the uptake and lysosomal degradation of collagen. Endo180 can bind to gelatin and collagens I, II, IV and V. It may play a role in wound regeneration. In addition, Endo180 can form a complex with uPAR and pro-uPA, thereby partaking in a variety of cellular proteolytic and signaling functions. Endo180 participates in the destruction of connective tissue during the progression of head and neck squamous cell carcinoma.

REFERENCES

1. Wienke, D., et al. 2003. Identification and characterization of the endocytic transmembrane glycoprotein Endo180 as a novel collagen receptor. *Mol. Biol. Cell* 14: 3592-3604.
2. Fernández, N., et al. 2005. Mannose-containing molecular patterns are strong inducers of cyclooxygenase-2 expression and prostaglandin E2 production in human macrophages. *J. Immunol.* 174: 8154-8162.
3. Thomas, E.K., et al. 2005. Endo180 binds to the C-terminal region of type I collagen. *J. Biol. Chem.* 280: 22596-22605.
4. Mousavi, S.A., et al. 2005. Uptake of denatured collagen into hepatic stellate cells: evidence for the involvement of urokinase plasminogen activator receptor-associated protein/Endo180. *Biochem. J.* 387: 39-46.

CHROMOSOMAL LOCATION

Genetic locus: MRC2 (human) mapping to 17q23.2.

PRODUCT

Endo180 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Endo180 shRNA Plasmid (h): sc-62276-SH and Endo180 shRNA (h) Lentiviral Particles: sc-62276-V as alternate gene silencing products.

For independent verification of Endo180 (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-62276A, sc-62276B and sc-62276C.

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

Endo180 siRNA (h) is recommended for the inhibition of Endo180 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 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

Endo180 (B-10): sc-271148 is recommended as a control antibody for monitoring of Endo180 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 Endo180 gene expression knockdown using RT-PCR Primer: Endo180 (h)-PR: sc-62276-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Gai, X., et al. 2014. MRC2 expression correlates with TGF β 1 and survival in hepatocellular carcinoma. *Int. J. Mol. Sci.* 15: 15011-15025.
2. Iwahashi, H., et al. 2022. Decreased levels of endocytic collagen receptor Endo180 in dermal fibroblasts lead to decreased production of type I collagen and increased expression of matrix metalloproteinase-1. *Photodermatol. Photoimmunol. Photomed.* 38: 150-157.

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.