



CD97 siRNA (h): sc-42864

BACKGROUND

CD97 is a member of the EGF-TM7 (seven-span transmembrane) protein family, which is characterized by an extended extracellular region with a variable number of N-terminal EGF-like domains coupled to a TM7 stalk. It is expressed by leukocytes following activation. CD97 binds to its cellular ligand CD55 (decay accelerating factor) and protects several cell types from complement-mediated damage. The CD97-CD55 interaction may play a role in cellular activation, migration and adhesion following inflammation. CD97 expression is increased in thyroid cancer, paralleling dedifferentiation and tumor staging in this disease. Many colorectal cell lines are also CD97+, with CD97 levels correlating with migration and invasion *in vitro*. CD97 is also expressed in various gastric, pancreatic and esophageal carcinomas. CD97 shares significant homology with EMR2, however the two proteins exhibit different expression patterns, as EMR2 is not expressed in any of the aforementioned cancer cells.

REFERENCES

1. Lea, S. 2001. Interactions of CD55 with non-complement ligands. *Biochem. Soc. Trans.* 30: 1014-1019.
2. Aust, G., et al. 2002. CD97, but not its closely related EGF-TM7 family member EMR2, is expressed on gastric, pancreatic, and esophageal carcinomas. *Am. J. Clin. Pathol.* 118: 699-707.
3. Steinert, M., et al. 2002. Expression and regulation of CD97 in colorectal carcinoma cell lines and tumor tissues. *Am. J. Pathol.* 161: 1657-1667.
4. Kwakkenbos, M.J., et al. 2002. The human EGF-TM7 family member EMR2 is a heterodimeric receptor expressed on myeloid cells. *J. Leukoc. Biol.* 71: 854-862.
5. Visser, L., et al. 2002. Expression of the EGF-TM7 receptor CD97 and its ligand CD55 (DAF) in multiple sclerosis. *J. Neuroimmunol.* 132: 156-163.

CHROMOSOMAL LOCATION

Genetic locus: CD97 (human) mapping to 19p13.12.

PRODUCT

CD97 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 CD97 shRNA Plasmid (h): sc-42864-SH and CD97 shRNA (h) Lentiviral Particles: sc-42864-V as alternate gene silencing products.

For independent verification of CD97 (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-42864A, sc-42864B and sc-42864C.

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 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

CD97 siRNA (h) is recommended for the inhibition of CD97 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

CD97 (G-8): sc-166852 is recommended as a control antibody for monitoring of CD97 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 CD97 gene expression knockdown using RT-PCR Primer: CD97 (h)-PR: sc-42864-PR (20 μ l). 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.