



CD47 siRNA (m): sc-35007

BACKGROUND

CD47 is an integral membrane protein that plays a role in the regulation of cation fluxes across cell membranes. Specifically, CD47 is involved in the increase in intracellular calcium concentration that occurs upon cell adhesion to the extracellular matrix. It is also a receptor for the C-terminal cell binding domain of thrombospondin (SIRP). CD47 is absent from Rh-null erythrocytes, but does play a role in cell adhesion in non-erythroid cells and may prevent premature elimination of erythrocytes. It may also be involved in membrane permeability changes following viral infection. CD47 is expressed on hemopoietic cells, epithelial cells, endothelial cells and fibroblasts and is strongly expressed in brain and mesenchymal cells.

REFERENCES

1. Boerman, O., et al. 1989. Monoclonal antibodies against ovarian carcinoma-associated antigens, raised by immunization with cyst fluids. *Anticancer Res.* 9: 551-558.
2. Knapp, W., et al. 1989. *Leukocyte Typing IV: White Cell Differentiation Antigens*. New York: Oxford University Press.
3. Van Niekerk, C.C., et al. 1993. Changes in expression of differentiation markers between normal ovarian cells and derived tumors. *Am. J. Pathol.* 142: 157-177.
4. Slobbe, R., et al. 1994. Analysis of idiotope structure of ovarian cancer antibodies: recognition of the same epitope by two monoclonal antibodies differing mainly in their heavy chain variable sequences. *Clin. Exp. Immunol.* 98: 95-103.
5. Mawby, W.J., et al. 1994. Isolation and characterization of CD47 glycoprotein: a multispinning membrane protein which is the same as integrin-associated protein (IAP) and the ovarian tumour marker OA3. *Biochem. J.* 304: 525-530.
6. Lindberg, F.P., et al. 1994. Rh-related antigen CD47 is the signal-transducer integrin-associated protein. *J. Biol. Chem.* 269: 1567-1570.

CHROMOSOMAL LOCATION

Genetic locus: Cd47 (mouse) mapping to 16 B5.

PRODUCT

CD47 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CD47 shRNA Plasmid (m): sc-35007-SH and CD47 shRNA (m) Lentiviral Particles: sc-35007-V as alternate gene silencing products.

For independent verification of CD47 (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-35007A, sc-35007B and sc-35007C.

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

CD47 shRNA Plasmid (m) is recommended for the inhibition of CD47 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 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

CD47 (B6H12): sc-12730 is recommended as a control antibody for monitoring of CD47 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 CD47 gene expression knockdown using RT-PCR Primer: CD47 (m)-PR: sc-35007-PR (20 μ l, 575 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.