SANTA CRUZ BIOTECHNOLOGY, INC.

CD36 siRNA (m): sc-37245

BACKGROUND

CD36 (collagen type I receptor, thrombospondin receptor, FAT, GP4, GP3B, GPIV, PASIV, SCARB3) is a membrane glycoprotein on platelets, monocytes and umbilical vein endothelial cells. CD36 binds to collagen, thrombospondin, anionic phospholipids and oxidized LDL. CD36 plays a key role in both phagocytosis and lipid recycling, for constant production of mature spermatozoa. Mutations in this gene cause platelet glycoprotein deficiency. Three alternatively spliced transcript variants encoding the same protein isoform have been found for this gene. Thrombospondins are widely distributed proteins that influence a variety of adhesive processes and CD36 may have important functions as a cell adhesion molecule.

CHROMOSOMAL LOCATION

Genetic locus: Cd36 (mouse) mapping to 5 A3.

PRODUCT

CD36 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 CD36 shRNA Plasmid (m): sc-37245-SH and CD36 shRNA (m) Lentiviral Particles: sc-37245-V as alternate gene silencing products.

For independent verification of CD36 (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-37245A, sc-37245B and sc-37245C.

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

CD36 siRNA (m) is recommended for the inhibition of CD36 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.

GENE EXPRESSION MONITORING

CD36 (SMϕ): sc-7309 is recommended as a control antibody for monitoring of CD36 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 CD36 gene expression knockdown using RT-PCR Primer: CD36 (m)-PR: sc-37245-PR (20 µl, 524 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Authier, H., et al. 2008. Interleukin-13 primes iNO synthase expression induced by LPS in mouse peritoneal macrophages. Mol. Immunol. 45: 235-243.
2. Li, W., et al. 2013. 7-ketocholesteryl-9-carboxynonanoate enhances the expression of ATP-binding cassette transporter A1 via CD36. Atherosclerosis 226: 102-109.
3. Liang, D.Y., et al. 2016. Porphyromonas gingivalis infected macrophages upregulate CD36 expression via ERK/NFκB pathway. Cell. Signal. 28: 1292-1303.
4. Ding, Z., et al. 2018. PCSK9 regulates expression of scavenger receptors and ox-LDL uptake in macrophages. Cardiovasc. Res. 114: 1145-1153.
5. Zhao, J., et al. 2019. CD36-mediated lipid accumulation and activation of NLRP3 inflammasome lead to podocyte injury in obesity-related glomerulopathy. Mediators Inflamm. 2019: 3172647.
6. Yan, C., et al. 2021. A high-fat diet attenuates AMPK α1 in adipocytes to induce exosome shedding and nonalcoholic fatty liver development *in vivo*. Diabetes 70: 577-588.
7. Qian, Z., et al. 2021. The cholinergic anti-inflammatory pathway attenuates the development of atherosclerosis in Apoe$^{-/-}$ mice through modulating macrophage functions. Biomedicines 9: 1150.

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.