

# CLEC-16A siRNA (m): sc-142379

## BACKGROUND

The human  $\beta$ -glucan protein (Dectin-1) is a small, type II transmembrane receptor that enables  $\beta$ -glucan-dependent, nonopsonic recognition of zymosan and other yeast-derived particles by primary macrophages. Dectin-1 is expressed in dendritic cells, and is the human homologue of the C-type (calcium dependent) lectin-like receptor (CLEC) family that plays an important role in regulating innate immunity. CLEC-16A (C-type lectin domain family 16, member A), also known as Gop-1, is a 1,053 amino acid member of the CLEC family and is expressed in dendritic cells, immune cells, B lymphocytes and natural killer cells. Defects in the gene encoding CLEC-16A are associated with Insulin-dependent diabetes mellitus (IDDM) (also known as type I diabetes) and primary adrenal insufficiency. Multiple isoforms of CLEC-16A exist due to alternative splicing events.

## REFERENCES

1. Nagase, T., et al. 1997. Prediction of the coding sequences of unidentified human genes. VII. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 4: 141-150.
2. Nakajima, D., et al. 2002. Construction of expression-ready cDNA clones for KIAA genes: manual curation of 330 KIAA cDNA clones. DNA Res. 9: 99-106.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611303. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Hakonarson, H., et al. 2007. A genome-wide association study identifies KIAA0350 as a type 1 diabetes gene. Nature 448: 591-594.

## CHROMOSOMAL LOCATION

Genetic locus: Clec16a (mouse) mapping to 16 A1.

## PRODUCT

CLEC-16A 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CLEC-16A shRNA Plasmid (m): sc-142379-SH and CLEC-16A shRNA (m) Lentiviral Particles: sc-142379-V as alternate gene silencing products.

For independent verification of CLEC-16A (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-142379A, sc-142379B and sc-142379C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

CLEC-16A siRNA (m) is recommended for the inhibition of CLEC-16A 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  $\mu$ M in 66  $\mu$ 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

CLEC-16A (H-4): sc-398516 is recommended as a control antibody for monitoring of CLEC-16A 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CLEC-16A gene expression knockdown using RT-PCR Primer: CLEC-16A (m)-PR: sc-142379-PR (20  $\mu$ 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.