

CD300A siRNA (h): sc-93624

BACKGROUND

CD300A, also known as CMRF35H, IRC1, IRC2, IRp60 or IGSF12, is a 299 amino acid single-pass type I membrane protein that localizes to the cell membrane and contains one Ig-like V-type domain. Expressed by mast cells, B-cells, dendritic cells, monocytes, granulocytes and natural killer (NK) cells, CD300A functions as an inhibitory receptor that is thought to help down-regulate the cytolytic activity in NK cells and may also down-regulate the degranulation of mast cells. CD300A exists as multiple alternatively spliced isoforms and is subject to post-translational phosphorylation and glycosylation. The gene encoding CD300A maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes.

REFERENCES

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2. Green, B.J., et al. 1998. The CMRF-35 mAb recognizes a second leukocyte membrane molecule with a domain similar to the poly Ig receptor. *Int. Immunol.* 10: 891-899.
3. Clark, G.J., et al. 2000. The CMRF-35H gene structure predicts for an independently expressed member of an ITIM/ITAM pair of molecules localized to human chromosome 17. *Tissue Antigens* 55: 101-109.
4. Clark, G.J., et al. 2002. CMRF-35A, CMRF-35H: potential new CD. *J. Biol. Regul. Homeost. Agents* 16: 233-235.
5. Bachelet, I., et al. 2005. The inhibitory receptor IRp60 (CD300A) is expressed and functional on human mast cells. *J. Immunol.* 175: 7989-7995.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 606790. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Ju, X., et al. 2008. CD300a/c regulate type I interferon and TNF- α secretion by human plasmacytoid dendritic cells stimulated with TLR7 and TLR9 ligands. *Blood* 112: 1184-1194.

CHROMOSOMAL LOCATION

Genetic locus: CD300A (human) mapping to 17q25.1.

PRODUCT

CD300A 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 CD300A shRNA Plasmid (h): sc-93624-SH and CD300A shRNA (h) Lentiviral Particles: sc-93624-V as alternate gene silencing products.

For independent verification of CD300A (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-93624A, sc-93624B and sc-93624C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

CD300A siRNA (h) is recommended for the inhibition of CD300A 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

CD300A (MEM-260): sc-101318 is recommended as a control antibody for monitoring of CD300A 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CD300A gene expression knockdown using RT-PCR Primer: CD300A (h)-PR: sc-93624-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.