SANTA CRUZ BIOTECHNOLOGY, INC.

CD300LB siRNA (h): sc-94094

BACKGROUND

CD300LB (CD300 molecule-like family member b), also known as CLM7, IREM3, TREM5 or CD300b, is a 201 amino acid single-pass type I membrane protein belonging to the CD300 family. Expressed exclusively in myeloid lineages, CD300LB interacts with ITAM-bearing adapter DAP12 (DNAX-activating protein of 12 kDa), which enhances cell surface expression and activation properties. CD300LB is composed of a single extracellular Ig V-type domain followed by a transmembrane region containing a positively charged lysine residue, a common feature among receptors that associate with activating adaptor proteins. CD300LB acts as a nonclassical activating receptor of the immunoglobulin (Ig) superfamily that is able to trigger signals by coupling distinct mediators and thus initiating different signaling pathways.

REFERENCES

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2. Lanier, L.L., et al. 1998. Immunoreceptor DAP12 bearing a tyrosine-based activation motif is involved in activating NK cells. Nature 391: 703-707.
3. Wu, J., et al. 2000. DAP10 and DAP12 form distinct, but functionally cooperative, receptor complexes in natural killer cells. J. Exp. Med. 192: 1059-1068.
4. Martínez-Barriocanal, A. and Sayós, J. 2006. Molecular and functional characterization of CD300b, a new activating immunoglobulin receptor able to transduce signals through two different pathways. J. Immunol. 177: 2819-2830.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610705. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Yamanishi, Y., et al. 2008. Analysis of mouse LMIR5/CLM-7 as an activating receptor: differential regulation of LMIR5/CLM-7 in mouse versus human cells. Blood 111: 688-698.
7. Can, I., et al. 2008. Caspase-independent cell death by CD300LF (MAIR-V), an inhibitory immunoglobulin-like receptor on myeloid cells. J. Immunol. 180: 207-213.
8. Clark, G.J., et al. 2009. The CD300 molecules regulate monocyte and dendritic cell functions. Immunobiology 214: 730-736.
9. Clark, G.J., et al. 2009. The CD300 family of molecules are evolutionarily significant regulators of leukocyte functions. Trends Immunol. 30: 209-217.

CHROMOSOMAL LOCATION

Genetic locus: CD300LB (human) mapping to 17q25.1.

PROTOCOLS

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

PRODUCT

CD300LB 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CD300LB shRNA Plasmid (h): sc-94094-SH and CD300LB shRNA (h) Lentiviral Particles: sc-94094-V as alternate gene silencing products.

For independent verification of CD300LB (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-94094A, sc-94094B and sc-94094C.

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

CD300LB siRNA (h) is recommended for the inhibition of CD300LB 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CD300LB gene expression knockdown using RT-PCR Primer: CD300LB (h)-PR: sc-94094-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Murakami, Y., et al. 2014. CD300b regulates the phagocytosis of apoptotic cells via phosphatidylserine recognition. Cell Death Differ. 21: 1746-1757.

RESEARCH USE

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