



CD300LB (M-14): sc-161006

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

- Jackson, D.G., Hart, D.N., Starling, G. and Bell, J.I. 1992. Molecular cloning of a novel member of the immunoglobulin gene superfamily homologous to the polymeric immunoglobulin receptor. *Eur. J. Immunol.* 22: 1157-1163.
- Lanier, L.L., Corliss, B.C., Wu, J., Leong, C. and Phillips, J.H. 1998. Immuno-receptor DAP12 bearing a tyrosine-based activation motif is involved in activating NK cells. *Nature* 391: 703-707.
- Wu, J., Cherwinski, H., Spies, T., Phillips, J.H. and Lanier, L.L. 2000. DAP10 and DAP12 form distinct, but functionally cooperative, receptor complexes in natural killer cells. *J. Exp. Med.* 192: 1059-1068.
- 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.
- 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/>
- Yamanishi, Y., Kitaura, J., Izawa, K., Matsuoka, T., Oki, T., Lu, Y., Shibata, F., Yamazaki, S., Kumagai, H., Nakajima, H., Maeda-Yamamoto, M., Tybulewicz, V.L., Takai, T. and Kitamura, T. 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.
- Can, I., Tahara-Hanaoka, S., Hitomi, K., Nakano, T., Nakahashi-Oda, C., Kurita, N., Honda, S., Shibuya, K. and Shibuya, A. 2008. Caspase-independent cell death by CD300LF (MAIR-V), an inhibitory immunoglobulin-like receptor on Myeloid cells. *J. Immunol.* 180: 207-213.
- Clark, G.J., Ju, X., Azlan, M., Tate, C., Ding, Y. and Hart, D.N. 2009. The CD300 molecules regulate monocyte and Dendritic cell functions. *Immunobiology.* 214: 730-736.
- Clark, G.J., Ju, X., Tate, C. and Hart, D.N. 2009. The CD300 family of molecules are evolutionarily significant regulators of leukocyte functions. *Trends Immunol.* 30: 209-217.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: Cd300lb (mouse) mapping to 11 E2.

SOURCE

CD300LB (M-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of CD300LB of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-161006 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CD300LB (M-14) is recommended for detection of CD300LB of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with CD300LF or CD300LG.

Suitable for use as control antibody for CD300LB siRNA (m): sc-142193, CD300LB shRNA Plasmid (m): sc-142193-SH and CD300LB shRNA (m) Lentiviral Particles: sc-142193-V.

Molecular Weight of CD300LB: 23 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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