CLEC-2D (T-13): sc-103436



The Power to Question

BACKGROUND

The C-type lectin/C-type lectin-like domain (CTL/CTLD) superfamily consists of a variety of proteins that share a common protein fold and have diverse functions, including cell-cell signaling, cell adhesion, glycoprotein turnover and immune responses. CLEC-2D (C-type lectin domain family 2, member D), also known as CLAX, LLT1 or OCIL, is a 191 amino acid single-pass type II membrane protein that contains one C-type lectin domain and localizes to the cell membrane. Expressed in spleen, thymus, lymph node and osteoblasts, CLEC-2D functions as a receptor for CD161, specifically protecting cells against natural killer (NK) cell-induced lysis and inhibiting osteoclast formation, as well as bone resorption. Additionally, CLEC-2D induces IFN- γ release in NK cells, thereby regulating IFN- γ activity. CLEC-2D is upregulated in osteogenic sarcoma cells, suggesting a role in tumorigenesis. Four isoforms of CLEC-2D exist due to alternative splicing events.

REFERENCES

- 1. Boles, K.S., Barten, R., Kumaresan, P.R., Trowsdale, J. and Mathew, P.A. 1999. Cloning of a new lectin-like receptor expressed on human NK cells. Immunogenetics. 50: 1-7.
- Iizuka, K., Naidenko, O.V., Plougastel, B.F., Fremont, D.H. and Yokoyama, W.M. 2003. Genetically linked C-type lectin-related ligands for the NKRP1 family of natural killer cell receptors. Nat. Immunol. 4: 801-807.
- Gange, C.T., Quinn, J.M., Zhou, H., Kartsogiannis, V., Gillespie, M.T. and Ng, K.W. 2004. Characterization of sugar binding by osteoclast inhibitory lectin. J. Biol. Chem. 279: 29043-29049.
- 4. Hu, Y.S., Zhou, H., Myers, D., Quinn, J.M., Atkins, G.J., Ly, C., Gange, C., Kartsogiannis, V., Elliott, J., Kostakis, P., Zannettino, A.C., Cromer, B., McKinstry, W.J., Findlay, D.M., Gillespie, M.T. and Ng, K.W. 2004. Isolation of a human homolog of osteoclast inhibitory lectin that inhibits the formation and function of osteoclasts. J. Bone Miner. Res. 19: 89-99.
- 5. Mathew, P.A., Chuang, S.S., Vaidya, S.V., Kumaresan, P.R., Boles, K.S. and Pham, H.T. 2004. The LLT1 receptor induces IFN-γ production by human natural killer cells. Mol. Immunol. 40: 1157-1163.
- Aldemir, H., Prod'homme, V., Dumaurier, M.J., Retiere, C., Poupon, G., Cazareth, J., Bihl, F. and Braud, V.M. 2005. Cutting edge: lectin-like transcript 1 is a ligand for the CD161 receptor. J. Immunol. 175: 7791-7795.
- Skinningsrud, B., Husebye, E.S., Pearce, S.H., McDonald, D.O., Brandal, K., Wolff, A.B., Løvas, K., Egeland, T. and Undlien, D.E. 2008. Polymorphisms in CLEC16A and CIITA at 16p13 are associated with primary adrenal insufficiency. J. Clin. Endocrinol. Metab. 93: 3310-3317.
- Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 605659. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: CLEC2D (human) mapping to 12p13.31.

RESEARCH USE

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

SOURCE

CLEC-2D (T-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of CLEC-2D of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-103436 P, ($100 \mu g$ peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CLEC-2D (T-13) is recommended for detection of CLEC-2D of human 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).

Suitable for use as control antibody for CLEC-2D siRNA (h): sc-95672, CLEC-2D shRNA Plasmid (h): sc-95672-SH and CLEC-2D shRNA (h) Lentiviral Particles: sc-95672-V.

Molecular Weight of CLEC-2D: 25 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.

STORAGE

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

PROTOCOLS

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

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