

CLEC-12A (F-12): sc-109517

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-12A (C-type lectin domain family 12, member A), also known as CLL1, MICL, CLL-1 or DCAL-2, is a 275 amino acid single-pass type II membrane protein that contains one C-type lectin domain and belongs to the CTL/CTLD superfamily. Existing as multiple alternatively spliced isoforms that are expressed in neutrophils, eosinophils, monocytes and dendritic cells, CLEC-12A functions as a cell surface receptor that acts as a negative regulator of granulocyte and monocyte function and, via this activity, modulates signaling cascades. CLEC-12A is highly subject to post-translational glycosylation at its N-terminus and may also exist as a homodimer.

REFERENCES

- Drickamer, K. 1999. C-type lectin-like domains. *Curr. Opin. Struct. Biol.* 9: 585-590.
- Ebner, S., Sharon, N. and Ben-Tal, N. 2003. Evolutionary analysis reveals collective properties and specificity in the C-type lectin and lectin-like domain superfamily. *Proteins* 53: 44-55.
- Bakker, A.B., van den Oudenrijn, S., Bakker, A.Q., Feller, N., van Meijer, M., Bia, J.A., Jongeneelen, M.A., Visser, T.J., Bijl, N., Geuijen, C.A., Marissen, W.E., Radosevic, K., Throsby, M., Schuurhuis, G.J., Ossenkoppele, G.J., de Kruif, J., Goudsmit, J. and Kruisbeek, A.M. 2004. C-type lectin-like molecule-1: a novel myeloid cell surface marker associated with acute myeloid leukemia. *Cancer Res.* 64: 8443-8450.
- Marshall, A.S., Willment, J.A., Lin, H.H., Williams, D.L., Gordon, S. and Brown, G.D. 2004. Identification and characterization of a novel human myeloid inhibitory C-type lectin-like receptor (MICL) that is predominantly expressed on granulocytes and monocytes. *J. Biol. Chem.* 279: 14792-14802.
- Chen, C.H., Floyd, H., Olson, N.E., Magaletti, D., Li, C., Draves, K. and Clark, E.A. 2006. Dendritic-cell-associated C-type lectin 2 (DCAL-2) alters dendritic-cell maturation and cytokine production. *Blood* 107: 1459-1467.
- Marshall, A.S., Willment, J.A., Pyz, E., Dennehy, K.M., Reid, D.M., Dri, P., Gordon, S., Wong, S.Y. and Brown, G.D. 2006. Human MICL (CLEC-12A) is differentially glycosylated and is downregulated following cellular activation. *Eur. J. Immunol.* 36: 2159-2169.
- van Rhenen, A., van Dongen, G.A., Kelder, A., Rombouts, E.J., Feller, N., Moshaver, B., Stigter-van Walsum, M., Zweegman, S., Ossenkoppele, G.J. and Jan Schuurhuis, G. 2007. The novel AML stem cell associated antigen CLL-1 aids in discrimination between normal and leukemic stem cells. *Blood* 110: 2659-2666.
- Pyz, E., Huysamen, C., Marshall, A.S., Gordon, S., Taylor, P.R. and Brown, G.D. 2008. Characterisation of murine MICL (CLEC-12A) and evidence for an endogenous ligand. *Eur. J. Immunol.* 38: 1157-1163.
- Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612088. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: CLEC12A (human) mapping to 12p13.2.

SOURCE

CLEC-12A (F-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of CLEC-12A of human 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-109517 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CLEC-12A (F-12) is recommended for detection of CLEC-12A 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-12A siRNA (h): sc-96196, CLEC-12A shRNA Plasmid (h): sc-96196-SH and CLEC-12A shRNA (h) Lentiviral Particles: sc-96196-V.

Molecular Weight of CLEC-12A monomer: 45 kDa.

Molecular Weight of CLEC-12A dimer: 90 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.

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.