



## CLEC-1 (M-46): sc-99049

### BACKGROUND

The human  $\beta$ -glucan protein (Dectin-1) is a small, type II transmembrane receptor that enables  $\beta$ -glucan dependent, nonopsonic recognition of zymosan and other yeast-derived particles by primary macrophages. Dectin-1 is the human homolog of the C-type (calcium dependent) lectin-like receptor (CLEC) family that play an important role in regulating innate immunity. CLEC-1 is a 280 amino acid single-pass type II transmembrane protein expressed in dendritic and endothelial cells. It accumulates in perinuclear compartments and requires an associated chain to reach the cell surface. CLEC-1 is involved in antigen uptake and is homologous to the natural killer (NK) cell receptors, NKG2s and CD94, that interact with major histocompatibility complex class I molecules and either inhibit or activate cytotoxicity and cytokine secretion. It has a single carbohydrate recognition domain with six conserved and two additional cysteine residues. Additionally, CLEC-1 has a cytoplasmic immunoreceptor tyrosine-based motif and many potential phosphorylation sites.

### REFERENCES

1. Colonna, M., et al. 2000. Molecular characterization of two novel C-type lectin-like receptors, one of which is selectively expressed in human dendritic cells. *Eur. J. Immunol.* 30: 697-704.
2. Sobanov, Y., et al. 2001. A novel cluster of lectin-like receptor genes expressed in monocytic, dendritic and endothelial cells maps close to the NK receptor genes in the human NK gene complex. *Eur. J. Immunol.* 31: 3493-3503.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606782. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Lu, Q., et al. 2005. Snake venom C-type lectins interacting with platelet receptors. Structure-function relationships and effects on haemostasis. *Toxicon* 45: 1089-1098.
5. Rosen, D.B., et al. 2005. Cutting edge: lectin-like transcript-1 is a ligand for the inhibitory human NKR-P1A receptor. *J. Immunol.* 175: 7796-7799.
6. Rupp, C., et al. 2006. Mouse endosialin, a C-type lectin-like cell surface receptor: expression during embryonic development and induction in experimental cancer neoangiogenesis. *Cancer Immun.* 6: 10.

### CHROMOSOMAL LOCATION

Genetic locus: *Clec1a* (mouse) mapping to 6 F3.

### SOURCE

CLEC-1 (M-46) is a rabbit polyclonal antibody raised against amino acids 224-269 mapping at the C-terminus of CLEC-1 of mouse origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### RESEARCH USE

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

### APPLICATIONS

CLEC-1 (M-46) is recommended for detection of CLEC-1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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](http://www.scbt.com) or our catalog for detailed protocols and support products.