

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human CLEC10A/CD301 in direct ELISAs and Western blots and mouse CLEC10A in Western blots. In this format, less than 1% cross-reactivity with recombinant human (rh) CLEC1, rhCLEC2, and rhCLEC3B is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CLEC10A/CD301 Gln61-His316 Accession # Q8IUN9
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

CLEC10A, also known as macrophage galactose/N-acetyl-galactosamine (GalNAc) specific lectin (MGL), CD301, DC-ASGPR, and HML, is a 35-40 kDa type II transmembrane glycoprotein that belongs to the C-type lectin family (1). Human and rat carry a single gene for CLEC10A/MGL, while mouse has two closely related MGL1 and MGL2 genes. Human CLEC10A/MGL consists of a 39 amino acid (aa) cytoplasmic region, a 21 aa transmembrane segment and a 256 aa extracellular domain (ECD) with one carbohydrate recognition domain (CRD) and a neck region (2). Within the CRD, human CLEC10A/MGL shares 64% - 70% aa sequence identity with mouse MGL1, mouse MGL2, and rat MGL. Alternate splicing generates multiple isoforms of human CLEC10A/MGL with 27 aa, 3 aa, and/or 4 aa deletions within the ECD (3, 4). CLEC10A/MGL is expressed on immature myeloid dendritic cells and alternatively activated (tolerogenic) macrophages and is upregulated by the immunosuppressant dexamethasone (3-7). CLEC10A/MGL selectively binds and internalizes terminal nonsialylated α- or β-linked GalNAc moieties on O-linked carbohydrates, including the Tn carcinoma antigen (2-4, 8, 9). Similar ligand preference is exhibited by mouse MGL2 but not MGL1 (10). CLEC10A/MGL expressed on tolerogenic dendritic cells binds carbohydrate determinants on CD45 (RA, RB, and RC but not RO isoforms) expressed by T, NK, and B cells (6). This interaction inhibits effector T cell activation and induces their apoptosis (6). CLEC10A/MGL also binds the GP envelope glycoprotein on Marburg and Ebola viruses and enhances viral entry and infectivity (11).

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