

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CLEC10A/CD301 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human ASGPR1 or recombinant mouse MGL1 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 744812
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CLEC10A/CD301 Gln61-His316 Accession # Q8IUN9
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Immature human dendritic cells

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 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).

References:

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11. Takada, A. *et al.* (2004) J. Virol. **78**:2943.

Human CLEC10A/CD301 Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 744812

Catalog Number: FAB48881T
100 µg

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