

DESCRIPTION

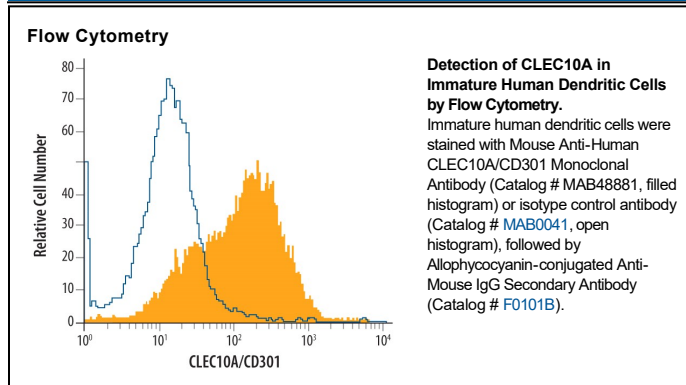
Species Reactivity	Human
Specificity	Detects human CLEC10A/CD301 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human ASGPR1 or recombinant mouse MGL1 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 744812
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CLEC10A/CD301 Gln61-His316 Accession # Q8IUN9
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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	2.5 µg/10 ⁶ cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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