

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Gln61-His316, with an N-terminal 6-His tag
Accession # Q8IUN9

N-terminal Sequence Analysis His

Predicted Molecular Mass 29.6 kDa

SPECIFICATIONS

SDS-PAGE 40-43 kDa, reducing conditions

Activity Measured by its ability to bind biotinylated β -Galactosamine-N-Acetyl-Polyacrylamide (β -Gal-NAC-PAA) in a functional ELISA.

Endotoxin Level <0.01 EU per 1 μ g of the protein by the LAL method.

Purity >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 μ m filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 200 μ g/mL in sterile PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 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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