Recombinant Rat CLEC10A/CD301

Catalog Number: 9037-CL

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived Gln59-Ser306, with an N-terminal 6-His tag Accession # NP_071788
N-terminal Sequence Analysis	His
Predicted Molecular Mass	29 kDa

SPECIFICATIONS

SDS-PAGE	34-42 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Rat CLEC10A/CD301 is immobilized at 2.5 µg/mL (100 µL/well), the concentration of biotinylated Recombinant Viral EBOV GP that produces 50% of the optimal binding response is approximately 1-6 µg/mL
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped with polar packs. 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 in 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. Rat CLEC10A consists of a 37 amino acid (aa) cytoplasmic region, a 21 aa transmembrane segment, and a 248 aa extracellular domain (ECD) with one carbohydrate recognition domain and a neck region (2). Within the ECD, rat CLEC10A shares 56% and 79% aa sequence identity with human CLEC10A and mouse CLEC10A/MGL1, respectively. CLEC10A is expressed on immature myeloid dendritic cells, Langerhans cells, and alternatively activated (tolerogenic) macrophages and is upregulated by the immunosuppressant dexamethasone (3-8). It is up-regulated on pro-inflammatory monocytes in obesity and promotes their trafficking to adipose tissue (9). CLEC10A selectively binds and internalizes terminal nonsialylated α- or β-linked GalNAc moieties on O-linked carbohydrates including the Tn carcinoma antigen (3, 4, 10-12). Similar ligand preference is exhibited by mouse MGL2 but not MGL1 (13). CLEC10A expressed on tolerogenic dendritic cells binds carbohydrate determinants on CD45 (RA, RB, and RC but not RO isoforms) on T, NK, and B cells (6). This interaction inhibits effector T cell activation and induces their apoptosis (6). CLEC10A also binds the GP envelope glycoprotein on Marburg and Ebola viruses and enhances viral entry and infectivity (14).

References:

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