Recombinant Cynomolgus Monkey CD6 His-tag

Catalog Number: 10398-CD

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived cynomolgus monkey CD6 protein His18-Glu398, with a C-terminal 6-His tag Accession # XP_005577746.1
N-terminal Sequence Analysis	His18
Predicted Molecular Mass	42 kDa

SPECIFICATIONS

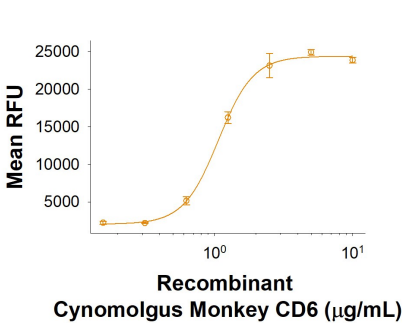
SDS-PAGE	73-83 kDa, under reducing conditions
Activity	Measured by the ability of the immobilized protein to support the adhesion of HuT 78 human cutaneous T cell lymphoma cells. The ED_{50} for this effect is 0.4-2.4 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, 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 with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in 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.

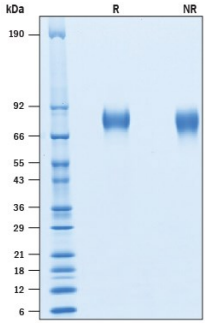
DATA

Binding Activity



Immobilized Recombinant Cynomolgus CD6 His-tag Protein (Catalog # 10398-CD) supports the adhesion of HuT 78 human cutaneous T cell lymphoma cells. The ED_{50} for this effect is 0.4-2.4 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Cynomolgus Monkey CD6 His-tag (Catalog # 10398-CD) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 73-83 kDa.

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Catalog Number: 10398-CD

BACKGROUND

CD6 is a member of the scavenger receptor cysteine-rich (SRCR) superfamily, which is characterized by the presence of one or several repeats of SRCR domains in their extracellular region (1). CD6 is a type I transmembrane glycoprotein and contains three extracellular SRCR domains (2, 3). It is expressed on thymocytes, T cells, a subset of B cells, and on certain regions of the brain (3, 4). Mature cynomolgus CD6 includes an extracellular domain (ECD), a transmembrane segment, and a cytoplasmic region. Within the ECD, cynomolgus CD6 shares 94% amino acid sequence identity with human CD6. CD6 appears to play a role as both a co-stimulatory molecule in T cell activation and as an adhesion receptor. Studies demonstrating a mitogenic effect for T cells with some CD6 specific monoclonal antibodies, in conjunction with either accessory cells or PMA and anti-CD2 mAb, support the concept of CD6 as a co-stimulatory molecule (7-12). Additionally, anti-CD6 monoclonal antibody has been used as an immunosuppressive agent for patients undergoing kidney or bone marrow allograft rejection. It has also been used to remove CD6+ T cells from donor bone marrow prior to allogenic bone marrow transplantation. Other studies have demonstrated an adhesive role for CD6. It has been demonstrated to bind the activated leukocyte cell adhesion molecule (ALCAM, CD166). CD6/ALCAM interactions have been postulated to play a role in thymocyte development (9, 13). Additionally, the presence of ALCAM on neuronal cells may provide a mechanism of interaction between CD6+ T cell and ALCAM+ neuronal cells. Phosphorylation of the CD6 molecule appears to play a role in CD6 mediated signal transduction (9, 13). Serine and threonine residues become hyperphosphorylated and tyrosine residues become phosphorylated when T cells are activated with anti-CD6 mAb in conjunction with PMA, anti-CD2, or anti-CD3 mAb (8, 10, 11, 14). The CD6 intracellular domain contains regions that can interact with SH2 or SH3 containing proteins. However, the signaling pathways have not been elucidated (5, 15, 16).

References:

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