Biotinylated Recombinant Human CD6 His-tag Avi-tag

Catalog Number: AVI11288

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human CD6 protein

Human CD6 (His18-Glu398) Accession # P30203.3	6-His tag	Avi-tag

N-terminus C-terminus

N-terminal Sequence Analysis	His18
Predicted Molecular Mass	43 kDa

SPECIFICATIONS

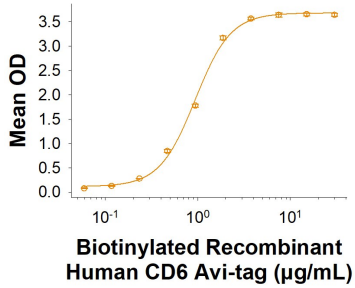
SDS-PAGE	82-91 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human ALCAM/CD166 Fc Chimera (Catalog # 7187-AL) is immobilized at 2 µg/mL (100 µL/well), Biotinylated Recombinant Human CD6 His-tag Avi-tag (Catalog # AVI11288) binds with an ED_{50} of 0.300-3.00 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 250 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.

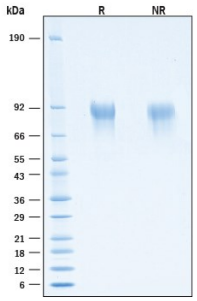
DATA

Binding Activity



Biotinylated Recombinant Human CD6 His-tag Avi-tag Protein Binding Activity. When Recombinant Human ALCAM/CD166 Fc Chimera (Catalog # 7187-AL) is immobilized at 2 µg/mL (100 µL/well), Biotinylated Recombinant Human CD6 His-tag Avi-tag Protein (Catalog # AVI11288) binds with an ED_{50} of 0.300-3.00 µg/mL.

SDS-PAGE



Biotinylated Recombinant Human CD6 His-tag Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human CD6 His-tag Avi-tag Protein (Catalog # AVI11288) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 82-91 kDa.

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BACKGROUND

CD6 is a member of the group B scavenger receptor cysteine-rich (SRCR) superfamily. CD6 is a type I membrane glycoprotein and contains three extracellular SRCR domains. CD6 is expressed at low levels on immature thymocytes and at high levels on mature thymocytes. The majority of peripheral blood T cells, a subset of B cells, and a subset of neuronal cells express CD6. CD6 is a 668 amino acid protein with a 24 amino acid predicted signal sequence, a 374 amino acid extracellular domain, and a 244 amino acid transmembrane region. The 626 amino acid murine homolog has also been identified. The human and murine proteins share 70% amino acid identity over their full-lengths.The role of CD6 has not been fully elucidated. However, it 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. 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 allogeneic 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. The presence of ALCAM on neuronal cells may provide a mechanism of interaction between CD6+ T cells and ALCAM+ neuronal cells. Phosphorylation of the CD6 molecule appears to play a role in CD6-mediated signal transduction. 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. The CD6 intracellular domain contains regions that can interact with SH2 or SH3 containing proteins. However, the signaling pathways have not been elucidated. Our Avi-tag Biotinylated human CD6 His-tag features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

References:

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