

CD6 Protein, Human, Recombinant (His & Avi), Biotinylated

General Information

Synonyms:	CD6 molecule;TP120
Protein Construction:	A DNA sequence encoding the Human CD6 (NP_006716.3)(Met1-Glu398) was expressed with a C-terminal polyhistidine tag followed by an AVI tag. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. Predicted N terminal: His 18
Species:	Human
Expression Host:	HEK293 Cells
Accession:	NP_006716.3
Molecular Weight:	43.83 kDa (predicted); 76.8 kDa (reducing conditions)

QC Testing

Biological Activity:	Immobilized Recombinant Human ALCAM/CD166 Protein (His Tag) (Cat#TMPY-01578) at 5 µg/mL (100 µL/well) can bind Recombinant Human CD6 Protein (His & Avi Tag), Biotinylated (Cat#TMPY-06313), the EC50 is 0.8-2.5 ug/mL (QC tested).
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

T-cell differentiation antigen CD6, also known as TP12 and CD6, is a single-pass type I membrane protein which contains threeSRCR domains. CD6 / TP12 is a cell surface glycoprotein expressed primarily on T cells, it may

function as a costimulatory molecule and may play a role in autoreactive immune responses. CD6 / TP12 is expressed by thymocytes, mature T-cells, a subset of B-cells known as B-1 cells, and by some cells in the brain. CD6 ligand termed CD166 (previously known as activated leukocyte cell adhesion molecule, ALCAM) has been identified and shown to be expressed on activated T cells, B cells, thymic epithelium, keratinocytes, and in rheumatoid arthritis synovial tissue. CD6 / TP12 binds to activated leukocyte cell adhesion molecule (CD166), and is considered as a costimulatory molecule involved in lymphocyte activation and thymocyte development. CD6 / TP12 partially associates with the TCR / CD3 complex and colocalizes with it at the center of the mature immunological synapse (IS) on T lymphocytes. During thymic development CD6-dependent signals may contribute both to thymocyte survival, and to the overall functional avidity of selection in both man and mouse.

Reference

- Joo YS. et al., 2000, Arthritis Rheum. 43 (2): 329-35.
Singer NG. et al., 2002, Int Immunol. 14 (6): 585-97.
Gimferrer I. et al., 2005, J Immunol. 175 (3): 1406-14.
Alonso R. et al., 2010, J Autoimmun. 35 (4): 336-41.

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