Data Sheet (Cat.No.TMPY-01825)

TargetMol

RP105/CD180 Protein, Human, Recombinant (His)

General Information

Synonyms:	CD180 molecule;Ly78;RP105;LY64
Protein Construction:	A DNA sequence encoding the human CD180 (NP_005573.2) extracellular domain (Met 1-Gly 626) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Trp 24
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q99467
Molecular Weight:	69 kDa (predicted); 90-100 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 90 % as determined by SDS-PAGE
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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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

The cluster of differentiation (CD) system is commonly used as cell markers in immunophenotyping. Different kinds of cells in the immune system can be identified through the surface CD molecules associating with the immune function of the cell. There are more than 320 CD unique clusters and subclusters have been identified. Some of the CD molecules serve as receptors or ligands important to the cell through initiating a signal cascade which then alter the behavior of the cell. Some CD proteins do not take part in cell signal process but have other functions

such as cell adhesion. CD180, also known as RP105, is a B-cell surface molecule belonging to the family of pathogen receptors, Toll-like receptors (TLR). CD180 has an extracellular leucine-rich repeats and a short cytoplasmic tail. CD180 / RP105 interacts with an extracellular molecule named MD1 and then together form the cell surface receptor complex RP105 / MD1 which induces B-cell activation in humans and mice, leading to proliferation and up-regulation of a costimulatory molecule, B7.2 / CD86. CD180 / RP105 also has a role in LPS response because B cells lacking RP105 show hyporesponsiveness to LPS.

Reference

Zola H,et al.(2007) CD molecules 2006-human cell differentiation molecules. J Immunol Methods. 318 (1-2): 1-5.
Ho IC,et al.(2009) GATA3 and the T-cell lineage: essential functions before and after T-helper-2-cell differentiation. Nat Rev Immunol. 9 (2): 125-35.
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Nagai Y,et al.(2002) Requirement for MD-1 in cell surface expression of RP105/CD180 and B-cell responsiveness to lipopolysaccharide. Journal of the American society of hematology. 99(5): 1699-705.

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