Data Sheet (Cat.No.TMPY-01023)

TargetMol

CD38 Protein, Human, Recombinant (His)

General Information

Synonyms:	CD38 molecule;ADPRC1;ADPRC 1;T10
Protein Construction:	A DNA sequence encoding the extracellular domain of human CD38 (NP_001766.2) (Val 43-Ile 300) with a C-terminal polyhistidine tag was expressed. Predicted N terminal: Val 43
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P28907-1
Molecular Weight:	31.3 kDa (predicted); 43-45 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	1. Measured by its ability to convert the substrate nicotinamide guanine dinucleotide(NGD+) to cyclic GDPribose. The specific activity is > 2,500 pmoles/min/μg. 2. Measured by its binding ability in a functional ELISA. Immobilized Human CD38 His at 2 μg/ml (100 μl/well) can bind Mouse Anti-CD38 Antibody , the EC50 of Mouse Anti-CD38 Antibody is 30-120 ng/mL. 3.Captured Daratumumab on anti-human IgG Fc via CM5 Chip can bind CD38 with an affinity constant of 5.429 nM as determined in a SPR assay(Routinely tested).
Purity:	> 97 % 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.

Shipping:

In general, Lyophilized powders are shipping with blue 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. Cluster of differentiation 38 (CD38), also known as ADP-ribosyl cyclase, is a glycoprotein found on the surface of many immune cells (white blood cells), including CD4+, CD8+, B and natural killer cells. It shares several characteristics with ADP-ribosyl cyclase 2 CD157. CD38 is a multifunctional ectoenzyme that catalyzes the synthesis and hydrolysis of cyclic ADP-ribose (cADPR) from NAD+to ADP-ribose. It also functions in cell adhesion, signal transduction and calcium signaling. CD38 has been used as a prognostic marker in leukemia. It can also be used to identify plasma cells.

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.
Matesanz-Isabel J,et al.(2011) New B-cell CD molecules. Immunology Letters.134 (2): 104-12.