# Data Sheet (Cat.No.TMPY-03188)

TargetMol

## MD1 Protein, Human, Recombinant (hFc)

### General Information

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| Synonyms: | MMD-1;lymphocyte antigen 86;MD-1;dJ80N2.1;MD1 |
| Protein Construction: | A DNA sequence encoding the human LY86 (O95711) (Met1-Ser162) was expressed, fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Gly 21 |
| Species: | Human |
| Expression Host: | HEK293 Cells |
| Accession: | O95711 |
| Molecular Weight: | 42.7 kDa (predicted); 48 kDa (reducing conditions) |

### QC Testing

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| 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: | > 85 % 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:

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

MD-1 and MD-2 are secretory glycoproteins that exist on the cell surface in complexes with transmembrane proteins. MD-1 is anchored by radioprotective 15 (RP15) which is a molecule containing leucine-rich repeats and is expressed on B cells, dendritic cells, and macrophages, while MD-2 is associated with TLR4. MD-1 is required for efficient RP15 cell surface expression and function. It is indicated that the RP15/MD1 complex, in conjunction with TLR4, mediates the innate immune response to LPS in B cells, and also plays a role in protecting against apoptosis,

B-cell proliferation, etc. Mouse MD-1 cDNA encodes a 162 amino acid precursor protein with a putative 19 aa signal peptide and two potential N-linked glycosylation sites. It shares 4% and 66% amino acid sequence identity with chicken and human MD-1 respectively. MD-1 is mainly expressed in the spleen, and also detectable in the liver, brain, thymus, and kidney.

Reference

Miura Y.,et al.,(1998), RP105 is associated with MD-1 and transmits an activation signal in human B cells. Blood 92: 2815-2822.

Begum N.A.,et al., (1999), Human MD-1 homologue is a BCG-regulated gene product in monocytes: Its identification by differential display.Biochem. Biophys. Res. Commun. 256:325-329.

Mungall A.J.,et al.,(2003), The DNA sequence and analysis of human chromosome 6.Nature 425:805-811.



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