# Data Sheet (Cat.No.TMPY-02435)

TargetMol

## CD43 Protein, Mouse, Recombinant (hFc)

### General Information

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|---|---|
| Synonyms: | A630014B01Rik;Ly-48;Galgp;Ly48;sialophorin;Cd43 |
| Protein Construction: | A DNA sequence encoding the extracellular domain of mouse SPN (P15702) (Met 1-Gly 248) was fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Asp 20 |
| Species: | Mouse |
| Expression Host: | HEK293 Cells |
| Accession: | P15702 |
| Molecular Weight: | 49.6 kDa (predicted); 110 kDa (reducing condition, due to glycosylation) |

### 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: | > 80 % 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

CD43 is an abundantly expressed molecule on the T-cell surface that shows distinct localization to the migrating T-cell uropod and the distal pole complex (DPC) opposite the immunological synapse via association with the ezrin-radixin-moesin (ERM) family of actin regulatory proteins. CD43 has a 235-amino acid (aa) extracellular domain, a 23-aa transmembrane domain, and a 123-aa cytoplasmic domain, all encoded by a single exon. The intracytoplasmic region of the protein is necessary to transduce signals; it is rich in potentially phosphorylable

threonines and serines but lacks tyrosine residues as well as catalytic activity. CD43 engagement on human peripheral blood T cells and monocytes leads to cell activation and proliferation through the generation of second messengers such as diacylglycerol and inositol phosphates, protein kinase C (PKC) activation and Ca2+mobilization. Besides, CD43 ligation on human T cells induces the association of CD43 with Src family kinases, presumably through the interaction of their Src homology 3 domain with a proline-rich region of the CD43 intracytoplasmic tail. This molecule has been implicated in T cell activation, enhancing T cell response to allogeneic or mitogenic stimulation and CD43-specific signals have been reported to be sufficient to activate T cells in the absence of T cell receptor (TCR) engagement. In summary, CD43 regulates multiple T-cell functions, including T-cell activation, proliferation, apoptosis, and migration.

Reference

Layseca-Espinosa E, et al. (2003) Journal of Leukocyte Biology. 74(6): 1083-93.
Cannon JL, et al. (2011) Mol Biol Cell. 22(7):954-63.
Pallant A, et al. (1989). Proc Natl Acad Sci. 86 (4): 1328-32.