

CD2 Protein, Rat, Recombinant (hFc)

General Information

Synonyms:	CD2 molecule
Protein Construction:	A DNA sequence encoding the rat CD2 (Q5I0M6) (Met1-Pro202) was expressed, fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Arg 23
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	Q5I0M6
Molecular Weight:	47.5 kDa (predicted); 58-64 kDa (reducing conditions)

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:	> 95 % 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

T-cell surface antigen CD2, also known as T-cell surface antigen T11/Leu-5, and SRBC, is a single-pass type I membrane protein. It contains one Ig-like C2-type domain and one Ig-like V-type domain. CD2 is a cell adhesion molecule expressed on T cells and is recognized as a target for CD48 (rats) and CD58 (humans). CD2 has been shown to set quantitative thresholds in T cell activation both in vivo and in vitro. Further, intracellular CD2 signaling pathways and networks are being discovered by the identification of several cytosolic tail binding

proteins. CD2 interacts with lymphocyte function-associated antigen (LFA-3) and CD48/BCM1 to mediate adhesion between T-cells and other cell types. CD2 is implicated in the triggering of T-cells, the cytoplasmic domain of CD2 is implicated in the signaling function. The complex of CD2 and CD58 also plays an important role in enhancing the adhesion of T lymphocytes to target cells, and promoting hyperplasia and activation of T lymphocytes. As a cell surface glycoprotein, CD2 expressed on most human T cells and natural killer (NK) cells and plays an important role in mediating cell adhesion in both T-lymphocytes and in signal transduction. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

Reference

Yang JJ, et al. (2001) Structural biology of the cell adhesion protein CD2: alternatively folded states and structure-function relation. *Curr Protein Pept Sci.* 2(1): 1-17.

Wilkins AL, et al. (2003) Structural biology of the cell adhesion protein CD2: from molecular recognition to protein folding and design. *Curr Protein Pept Sci.* 4(5): 367-73.

McNerney ME, et al. (2006) The CD2 family of natural killer cell receptors. *Curr Top Microbiol Immunol.* 298: 91-120.

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