

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human CD2 protein		
	Human CD2 (Lys25-Asp209) Accession # P06729	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Lys25		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	48 kDa		

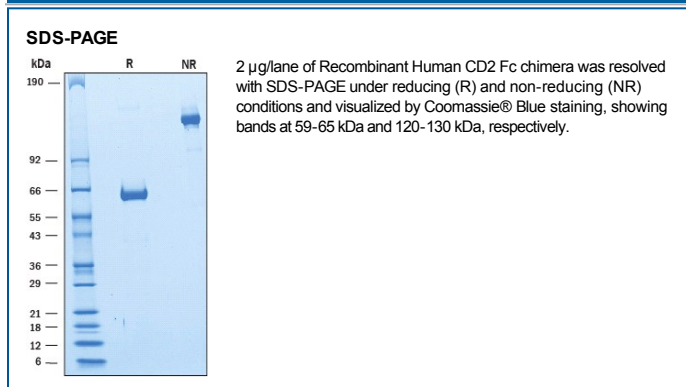
SPECIFICATIONS

SDS-PAGE	59-65 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human CD58 Fc Chimera is immobilized at 1 µg/mL, 100 µL/well, Recombinant Human CD2 Fc Chimera binds with an ED ₅₀ of 1-5 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<ul style="list-style-type: none"> ● 12 months from date of receipt, ≤ -20 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, ≤ -20 °C under sterile conditions after reconstitution.

DATA



BACKGROUND

T cell surface antigen CD2 is a type I glycoprotein belonging to the Ig superfamily and is expressed on T cells, NK cells, B cells and some antigen presenting cells. CD2 functions as an activator of T lymphocytes and thymocytes (1). Mature human CD2 consists of a 185 amino acid (aa) extracellular domain (ECD), a 26 aa transmembrane segment, and a 116 aa cytoplasmic tail. The extracellular domain is composed of two immunoglobulin-superfamily domains with highly-charged binding regions (2). Within the ECD, human CD2 shares 47% and 48% aa sequence identity with mouse and rat CD2, respectively. It interacts with both CD58 and CD59 directly to activate T cells and their adhesion pathways (3). The conformational flexibility of the CD2 molecule affects function through the conformational status of the adhesive ligands (4). Together with PSTPIP1, CD2 works to regulate T cell activation (5). These two proteins colocalize with a second CD2-binding protein to signal immunological synapse formation in T cells (6). CD2 is an adhesion molecule present on the cell surface of T cells, natural killer (NK) cells, and B cells; and its interaction with CD58 on antigen-presenting cells plays an important role in their immune reaction (7). CD2-CD58 interactions play a critical role in the anti-tumor immune response, and restoration of this signaling is an important strategy for anti-tumor therapy (8). Furthermore, CD2-CD58 interactions are pivotal for the activation and function of adaptive natural killer cells in human cytomegalovirus infection (9).

References:

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6. Badour, K. *et al.* (2003). *Immunity.* **18**:141.
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