

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human CD46 protein		
	Human CD46 (Cys35-Asp328) Accession # P15529-11	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence	Cys35		
Analysis			
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	59 kDa		

SPECIFICATIONS

SDS-PAGE	88-98 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human CD46 Fc Chimera is immobilized at 5 µg/mL (100 µL/well), the concentration of Human C4b that produces 50% of the optimal binding response is 2-12 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. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Binding Activity

When Recombinant Human CD46 Fc Chimera (Catalog # 10257-CD) is immobilized at 5 µg/mL (100 µL/well), it binds to Human C4b with an ED₅₀ of 2-12 µg/mL.

SDS-PAGE

2 µg/lane of Recombinant Human CD46 Fc Chimera was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 88-98 kDa and 160-190 kDa, respectively.

BACKGROUND

CD46, also known as MCP (Membrane cofactor protein), is a type I membrane protein that functions as a cofactor for Complement Factor I mediated inactivation of complement components C3b and C4b (1, 2). Mature human CD46 consists of a 309 amino acid (aa) extracellular domain (ECD) with four short consensus repeats (SCR) and a Ser/Thr/Pro-enriched region, a 23 aa transmembrane domain, and a 26 aa cytoplasmic domain (1). Within the ECD, human CD46 shares 50% aa sequence identity with mouse and rat CD46. CD46 is commonly expressed in four distinct isoforms, and all isoforms have conserved complement control protein domains which harbor the C3b and C4b binding sites (3). CD46 is expressed on all nucleated cells (4). CD46 participates in the maintenance of immune homeostasis and the induction of protective T cell immunity, and it could extend towards key processes in development and cell metabolism (5).

References:

1. Liszewski, M.K. *et al.* (1991) *Annu. Rev. Immunol.* **9**:431.
2. Barilla-LaBarca, M.L. *et al.* (2002) *J. Immunol.* **168**:6298.
3. Yamamoto, H. *et al.* (2013) *Intl. J. Biochem. Cell Biol.* **45**:2808.
4. Andrews, P.W. *et al.* (1985) *Ann. Hum. Genet.* **49**:31.
5. Kolev, M. *et al.* (2013) *Semin. Immunol.* **25**:12.