

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human CD9 protein		
	Human IgG ₁ MD + (Pro100-Lys330)	IEGR	Human CD9-LEL (Ser112-Ile195) Accession # P21926
	N-terminus		C-terminus
N-terminal Sequence Analysis	MD + Pro100		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	36.3 kDa		

SPECIFICATIONS

SDS-PAGE	38-42 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human CD9 Fc Chimera is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human CD81 Fc Chimera binds with an ED ₅₀ of 2-10 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	<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

<p>Binding Activity</p> <p>When Recombinant Human CD9 Fc Chimera (Catalog # 10015-CD) is immobilized at 1 µg/mL, Biotinylated Recombinant CD81 Fc Chimera binds with an ED₅₀ of 2-10 µg/mL.</p>	<p>SDS-PAGE</p> <p>2 µg/lane of Recombinant Human CD9 was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 38-42 kDa and 75-85 kDa, respectively.</p>
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BACKGROUND

CD9, also known as Tspan29, is a 24-27 kDa cell surface protein belonging to the tetraspanin family (1). Common to other tetraspanins, CD9 is composed of four transmembrane domains, short N- and C-terminal cytoplasmic domains, and two extracellular loops. The larger extracellular loop, referred to as the LEL or EC2, contains highly conserved CCG and PXSC motifs (2, 3). The LEL mediates noncovalent protein-protein interactions, allowing tetraspanins to associate with each other as well as signaling molecules, structural proteins, and G-protein coupled receptors (4-6). Human CD9 is expressed in multiple cell and tissue types and has been identified in diverse biological roles due to its involvement in the formation of tetraspanin-enriched microdomains (TEMs). TEMs are associated with numerous processes ranging from cell adhesion and fusion, membrane trafficking, and endocytosis to leukocyte adherence and motility (4-7). These tetraspanin-enriched microdomains (TEMs) are associated with a wide range of functions from cell adhesion and fusion, membrane trafficking and endocytosis, and eukocyte adherence and motility. The LEL of human CD9 shares 77% and 84% amino acid sequence identity with mouse and rat CD9, respectively. CD9 can form homodimers or interact with other proteins including CD117, CD29, CD46, CD49c, CD81, CD315, Tspan4, TGF- α , and HBEGF (1, 4, 8-13). Increased expression of CD9 has been shown to enhance transmembrane TGF- α -induced EGFR stimulation (1), and injection of human CD9 mRNA into CD9 knock-out mouse oocytes restored sperm-egg fusion (14). CD9-LEL may also be involved in the inhibition of multinucleated giant cell formation (3) as well as possess anti-adhesive effects against bacteria trying to invade mammalian cells (6, 15). CD9 interacts with integrins to regulate cell adhesion and motility (16-18). CD9 has been implicated in platelet activation and aggregation (17, 19). It may act as the terminal signal of myelination in the peripheral nervous system and can regulate the formation of paranodal junctions (20). Also, it has been suggested CD9 plays an important role both in the self-antigen and recall antigen-induced T cell activation (21).

References:

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