

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human CD9 in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 1021007
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Chinese Hamster Ovary cell line, CHO-derived human CD9 Ser112-Ile195 Accession # P21926
<b>Conjugate</b>	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	Human platelets

## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

**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 leukocyte 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- $\alpha$ , and HBEGF (1, 4, 8-13). Increased expression of CD9 has been shown to enhance transmembrane TGF- $\alpha$ -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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