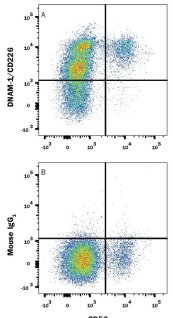
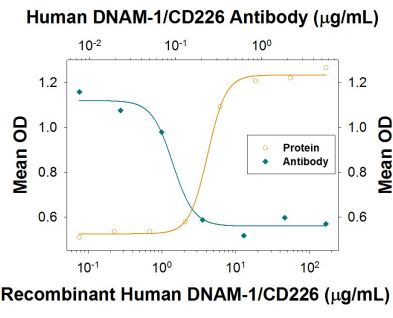


DESCRIPTION	
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human DNAM-1/CD226 in direct ELISAs and Western blots.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 102511
<b>Purification</b>	Protein A or G purified from ascites
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human DNAM-1/CD226 Glu19-Asn247 (predicted) Accession # Q15762
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS		
<b>Please Note:</b> Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.		
	Recommended Concentration	Sample
<b>Western Blot</b>	1 µg/mL	Recombinant Human DNAM-1/CD226 Fc Chimera (Catalog # 666-DN) under non-reducing conditions only
<b>Flow Cytometry</b>	0.25 µg/10 <sup>6</sup> cells	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
<b>Neutralization</b>	Measured by its ability to neutralize DNAM-1/CD226-mediated adhesion of the COLO 205 human colorectal adenocarcinoma cell line. Cosman, D. <i>et al.</i> (1997) <i>Immunity</i> 7:273. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.1-0.6 µg/mL in the presence of 20 µg/mL Recombinant Human DNAM-1/CD226 Fc Chimera.	

DATA	
<p><b>Flow Cytometry</b></p>  <p><b>Detection of DNAM-1/CD226 in Human PBMCs by Flow Cytometry.</b> Human peripheral blood mononuclear cells (PBMCs) gated on CD3<sup>+</sup> cells were stained with Mouse Anti-Human NCAM-1/CD56 APC-conjugated Monoclonal Antibody (Catalog # FAB2408A) and either (A) Mouse Anti-Human DNAM-1/CD226 Monoclonal Antibody (Catalog # MAB666) or (B) Mouse IgG<sub>1</sub> Isotype Control (Catalog # MAB002) followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B).</p>	<p><b>Neutralization</b></p>  <p><b>Cell Adhesion Mediated by DNAM-1/CD226 and Neutralization by Human DNAM-1/CD226 Antibody.</b> Recombinant Human DNAM-1/CD226 Fc Chimera (Catalog # 666-DN), immobilized onto a microplate, supports the adhesion of the COLO 205 human colorectal adenocarcinoma cell line in a dose-dependent manner (orange line). Adhesion elicited by Recombinant Human DNAM-1/CD226 Fc Chimera (20 µg/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human DNAM-1/CD226 Monoclonal Antibody (Catalog # MAB666). The ND<sub>50</sub> is typically 0.1-0.6 µg/mL.</p>

PREPARATION AND STORAGE	
<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

DNAM-1 (DNAM-1), also known as CD226, is a 65 kDa type I transmembrane glycoprotein in the immunoglobulin superfamily (1). Mature human DNAM-1 contains a 236 amino acid (aa) extracellular domain (ECD) with two Ig-like C2-set domains and a 61 aa cytoplasmic region that contains motifs for binding PDZ domains and band 4.1 family proteins (1, 2). Within the ECD, human DNAM-1 shares 50% and 52% aa sequence identity with mouse and rat DNAM-1, respectively. DNAM-1 is expressed on multiple lymphoid and myeloid cell types and interacts with CD155/PVR and Nectin-2/CD112 (3, 4). Ligation of DNAM-1 promotes the activation of NK cells, CD8<sup>+</sup> T cells, and mast cells (2-6), dendritic cell maturation, megakaryocyte and activated platelet adhesion to vascular endothelial cells, and monocyte extravasation; it inhibits the formation of osteoclasts (7-10). Platelet-endothelium interactions mediated by DNAM-1 enable the metastasis of tumor cells to the lung (11). In activated, but not in resting NK, T, and mast cells, the *cis* association of DNAM-1 with CD18 contributes to the tyrosine and serine phosphorylation of DNAM-1 during activation (6, 9, 12-14).

**References:**

1. Fuchs, A. and M. Colonna (2006) *Semin. Cancer Biol.* **16**:359.
2. Shibuya, A. *et al.* (1996) *Immunity* **4**:573.
3. Bottino, C. *et al.* (2003) *J. Exp. Med.* **198**:557.
4. Tahara-Hanaoka, S. *et al.* (2004) *Int. Immunol.* **16**:533.
5. Dardalhon, V. *et al.* (2005) *J. Immunol.* **175**:1558.
6. Bachelet, I. *et al.* (2006) *J. Biol. Chem.* **281**:27190.
7. Reymond, N. *et al.* (2004) *J. Exp. Med.* **199**:1331.
8. Kakehi, S. *et al.* (2007) *Mol. Cell. Biochem.* **301**:209.
9. Kojima, H. *et al.* (2003) *J. Biol. Chem.* **278**:36748.
10. Tahara-Hanaoka, S. *et al.* (2006) *Blood* **107**:1491.
11. Morimoto, K. *et al.* (2007) *Oncogene* July 16 epub.
12. Shibuya, K. *et al.* (1999) *Immunity* **11**:615.
13. Shibuya, K. *et al.* (2003) *J. Exp. Med.* **198**:1829.
14. Shibuya, A. *et al.* (1998) *J. Immunol.* **166**:1671.