

**DESCRIPTION**

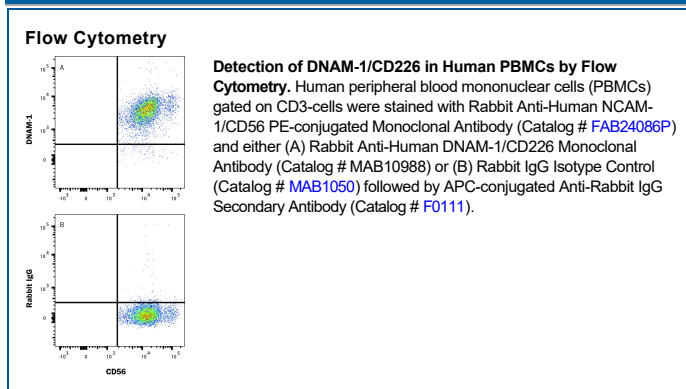
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human DNAM-1/CD226 in direct ELISAs.
<b>Source</b>	Recombinant Monoclonal Rabbit IgG Clone # 2770B
<b>Purification</b>	Protein A or G purified from cell culture supernatant
<b>Immunogen</b>	Human embryonic kidney cell HEK293-derived human DNAM-1/CD226 protein Glu19-Asn247 Accession # Q15762
<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 either lyophilized or as a 0.2 µm filtered solution in PBS.

**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 µg/10 <sup>6</sup> cells	Human PBMCs

**DATA**



**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>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <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**

DNAX accessory molecule-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 cells 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 can enable the metastasis of tumor cells to the lung (11). CD96 competes with DNAM-1 for binding to CD155 and blocks DNAM-1 mediated NK cell activation (12). 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, 13-15).

**References:**

1. Zingoni, A. *et al.* (2013) *Front. Immunol.* **3**:408.
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* **27**:264.
12. Chan, C.J. *et al.* (2014) *Nat. Immunol.* **15**:431.
13. Shibuya, K. *et al.* (1999) *Immunity* **11**:615.
14. Shibuya, K. *et al.* (2003) *J. Exp. Med.* **198**:1829.
15. Shibuya, A. *et al.* (1998) *J. Immunol.* **166**:1671.