

#### 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>Conjugate</b>	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *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.

	Recommended Concentration	Sample
<b>Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	Human peripheral blood mononuclear cells (PBMCs) gated on CD3 <sup>+</sup> cells

#### 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

DNAM 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 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.

**PRODUCT SPECIFIC NOTICES**

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.