

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human CD229/SLAMF3 in direct ELISAs and Western blots.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human CD229/SLAMF3 Lys48-Lys454 Accession # Q9HBG7
<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.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human CD229/SLAMF3 (Catalog # 1898-CD)
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	Human whole blood lymphocytes
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 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

CD229, also known as Ly9 and SLAMF3, is a 120 kDa type I transmembrane glycoprotein in the SLAM subgroup of the CD2 family (1). Mature human CD229 consists of a 407 amino acid (aa) extracellular domain (ECD) with two Ig-like V-set and two Ig-like truncated C2-set domains. It also shows a 22 aa transmembrane segment, and a 179 aa cytoplasmic domain with two immunoreceptor tyrosine-based switch motifs ITSMs (2, 3). The ECD of human CD229 shares 57%-59% aa sequence identity with mouse and rat CD229. Within the first two Ig-like domains that are common to all SLAM proteins, human CD229 shares 24%-39% aa sequence identity with human 2B4, BLAME, CD2F-10, CD84, CRACC, NTB-A, and SLAM. Alternate splicing generates two additional isoforms that lack the juxtamembrane Ig-like domain or short cytoplasmic region (2). CD229 is expressed on T and B cells, thymocytes, and more weakly on NK cells (2-6). Homophilic binding between CD229 molecules is mediated by the N-terminal Ig-like domain (7). Human and mouse CD229 exhibit cross-species binding (7). Antigen stimulation of lymphocytes induces CD229 clustering to sites of T cell - B cell contact (7). Two tyrosines in the cytoplasmic domain are required for association of CD229 with the adaptor proteins AP-2 (µ2 chain) and GRB-2 and both are required for CD229 internalization (8, 9). In addition, there are two ITSMs which mediate phosphorylation-dependent CD229 association with SAP and SHP-2 (10). These four tyrosine-containing motifs are intact in the described CD229 splice variants. CD229 knockout mice show minimally impaired immune responses, suggesting functional redundancy with other molecules (11).

## References:

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