Human CD229/SLAMF3
Alexa Fluor® 700-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 249936

Catalog Number: FAB1898N

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD229/SLAMF3 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse CD229 is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 249936
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD229/SLAMF3 Lys48-Lys454 Accession # Q9HBG7
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	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
Flow Cytometry	0.25-1 µg/10^6 cells	Human whole blood lymphocytes

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

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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