Human Integrin β2/CD18 Antibody

Monoclonal Mouse IgG_1 Clone # 212701

Catalog Number: MAB1730

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Integrin β2/CD18 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human Integrin β1 or recombinant mouse Integrin α5 is observed.
Source	Monoclonal Mouse IgG_1 Clone # 212701
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Integrin β2/CD18 Gln23-Asn700 Accession # AAA59490
Formulation	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.

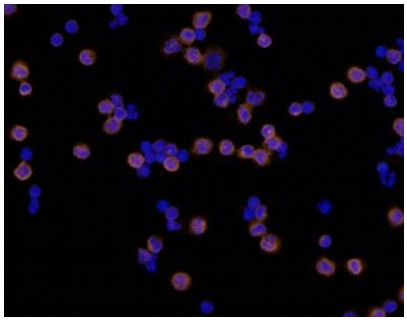
APPLICATIONS

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
Western Blot	1 µg/mL	Recombinant Human Integrin αXβ2 (Catalog # 5755-AX) under non-reducing conditions only
Flow Cytometry	2.5 µg/10^6 cells	Human peripheral blood mononuclear cells
Immunocytochemistry	8-25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Immunocytochemistry



Integrin β2/CD18 in Human PBMCs. Integrin β2/CD18 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) using Mouse Anti-Human Integrin β2/CD18 Monoclonal Antibody (Catalog # MAB1730) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counter-stained with DAPI (blue). Specific staining was localized to cell surfaces and cytoplasm. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Integrin αXβ2, also called CD11c/CD18, p150/95 or complement receptor type 4 (CR4), is one of four β2 integrins. The non-covalent heterodimer of 150 kDa αX/CD11c and 95 kDa β2/CD18 integrin subunits is expressed on macrophages, dendritic cells and hairy cell leukemias, with lower amounts on other myeloid cells and activated B, NK and some cytotoxic T cells (1-7). Like other integrins, αXβ2 has multiple activation states (3). In the presence of divalent cations and "inside-out" signaling, αXβ2 is fully active and extended. The αX vWFA or I-domain, which contains the adhesion sites, forms the N-terminal head region with the αX beta-propeller and the β2 vWFA domain (1, 8). In the inactive state, the heterodimer flexes in the center at the αX thigh and calf domains and β2 I-EGF domains, impeding access to adhesion sites (1). The 1088 aa human αX/CD11c ECD shares 70-76% aa sequence identity with mouse, rat and canine αX while the 678 aa human β2/CD18 ECD shares 81-83% aa sequence identity with mouse, rat, cow, dog, goat, sheep, and pig β2. Potential αX isoforms containing 719 and 725 aa (as compared to full-length 1163 aa αX) lack the vWFA domain and the N-terminus. Active αXβ2 shares some adhesion partners with αMβ2/CD11b/CD18, including complement opsonin fragment iC3b, ICAMs, vWF and fibrinogen, and is expressed on many of the same cells (4-11). However, αMβ2 activity is often constitutive, while αXβ2 activity requires cell activation (4-7). αXβ2 also binds osteopontin, Thy-1, plasminogen, heparin, and proteins with abnormally exposed acidic residues (11-16). The adhesion events are important for proliferation, degranulation, chemotactic migration, and phagocytosis of complement-opsonized particles (5, 6, 9, 11, 12, 16). Mutations of β2, especially in the vWFA domain, cause leukocyte adhesion deficiency (LAD-1) and susceptibility to bacterial infections (17).

References:

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