

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Integrin α 2/CD49b in direct ELISAs and Western blots. In direct ELISAs and Western blots, 50-100% cross-reactivity with recombinant mouse (rm) Integrin α 2 is observed and no cross-reactivity with recombinant human (rh)&nb
Source	Monoclonal Rat IgG _{2A} Clone # 430907
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Integrin α 2/CD49b Tyr30-Thr1132 Accession # P17301
Conjugate	Alexa Fluor 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.

Western Blot Optimal dilution of this antibody should be experimentally determined.

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

Integrin α 2 is one of twelve integrin family α subunits that share the β 1 subunit (1-3). Integrin α 2 β 1 is the non-covalent heterodimer of 160 kDa α 2 (CD49b) and 130 kDa β 1 (CD29) type I transmembrane glycoprotein subunits and is one of six very late antigens on activated T cells, designated VLA2 (3). The α 2 extracellular domain (ECD) contains an I (inserted) domain which includes the ligand binding site (2, 3). The β 1 ECD contains a vWFA domain, which participates in binding. Each subunit then has a transmembrane sequence and a short cytoplasmic tail. The dimer is folded when it is least active. Divalent cations and intracellular (inside-out) signaling convert it to its most active, extended and open conformation (1, 2). The 1102 amino acid (aa) human α 2 extracellular domain (ECD) shares 83-89% aa sequence identity with mouse, rat, canine, bovine and equine α 2. The I domain-containing β 1 integrins (α 1 β 1, α 2 β 1, α 10 β 1 and α 11 β 1) all bind collagens, with α 2 β 1 preferring collagens I-III (4, 5). Platelet α 2 β 1, also called GPIa, cooperates with another adhesion protein, GPVI, to coordinate platelet collagen binding and activation (3, 6, 7). Other α 2 β 1 ligands include laminin, decorin, E-cadherin, and collagen-like regions of collectin molecules such as C1q (4). Adhesion is synergized by crosstalk with syndecan-1 or HGF R/c-Met, and antagonized by crosstalk with Integrin α 1 β 1 (8-10). In addition to expression on selected hematopoietic cells, α 2 β 1 is present on a wide variety of non-hematopoietic cells (4). Mice deficient in the α 2 subunit have defects in innate immune responses, wound mast cell infiltration and angiogenesis, and platelet responses to collagen (6, 11, 12). In innate immunity, α 2 β 1 binding to C1q initiates the complement cascade and costimulates mast cell activation, triggering neutrophil influx (4, 12).

PRODUCT SPECIFIC NOTICES

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