Human Integrin α2/CD49b Alexa Fluor® 350-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 430907

Catalog Number: FAB12331U

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Integrin α2/CD49b in direct ELISAs and Western blots. In direct ELISAs and Western blots, 50-100% cross-reactivity with recombinant mouse (rm) Integrin α2 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 α2/CD49b Tyr30-Thr1132 Accession # P17301
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 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 α2 is one of twelve integrin family α subunits that share the β1 subunit (1-3). Integrin α2β1 is the non-covalent heterodimer of 160 kDa α2 (CD49b) and 130 kDa β1 (CD29) type I transmembrane glycoprotein subunits and is one of six very late antigens on activated T cells, designated VLA2 (3). The α2 extracellular domain (ECD) contains an I (inserted) domain which includes the ligand binding site (2, 3). The β1 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 α2 extracellular domain (ECD) shares 83-89% aa sequence identity with mouse, rat, canine, bovine and equine α2. The I domain-containing β1 integrins (α1β1, α2β1, α10β1 and α11β1) all bind collagens, with α2β1 preferring collagens I-III (4, 5). Platelet α2β1, also called GPIa, cooperates with another adhesion protein, GPVI, to coordinate platelet collagen binding and activation (3, 6, 7). Other α2β1 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 α1β1 (8-10). In addition to expression on selected hematopoietic cells, α2β1 is present on a wide variety of non-hematopoietic cells (4). Mice deficient in the α2 subunit have defects in innate immune responses, wound mast cell infiltration and angiogenesis, and platelet responses to collagen (6, 11, 12). In innate immunity, α2β1 binding to C1q initiates the complement cascade and costimulates mast cell activation, triggering neutrophil influx (4, 12).

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