Human Integrin α2/CD49b Alexa Fluor® 405-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # HAS3

Catalog Number: FAB1233V

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Integrin α2/CD49b.
Source	Monoclonal Mouse IgG_{2A} Clone # HAS3
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human keratinocytes
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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	HT1080 human fibrosarcoma cell line

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).

References:

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PRODUCT SPECIFIC NOTICES

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