Human Integrin α6β1 Heterodimer Alexa Fluor® 350-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2548B
Catalog Number: FAB7809U
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Integrin α6β1 in direct ELISAs. In direct ELISA, less than 1% of cross reactivity with recombinant human (rh) Integrin β1 and recombinant mouse (rm) Integrin α6 is observed. In direct ELISA, no cross-reactivity with rhIntegrin α3, β2, β3, β5, β6, β7, and rmIntegrin β1 is observed.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2548B
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived Human Integrin α6β1 heterodimer Phe24-Ser1012(Integrin alpha 6) and Gln21-Asp728 (Integrin beta1) Accession # NP_000201
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and 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.*

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10^6 cells	Human PBMC

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 α6β1, also called platelet glycoprotein GPIc-IIa, is a laminin binding integrin that is expressed on T cells, monocytes, endothelial cells, stem cells, and platelets (1-9). The non-covalent heterodimer is composed of ~150 kDa α6/CD49f and 130 kDa β1/CD29 type I transmembrane glycoprotein subunits (2). While α6 pairs only with β1 or β4, twelve integrins share the β1 subunit (1-5). The α6 subunit is cleaved into extracellular heavy and transmembrane light chains (3). Alternative splicing in the human α6 extracellular domain (ECD) at amino acid (aa) 216 creates X1 (ubiquitous), X2 and X1X2 isoforms, while splicing at a mouse or human cytoplasmic site creates A and B isoforms (10, 11). These forms do not appear to alter the binding specificity (4, 10, 11). 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 human α6 (X1) heavy chain shares 94-95% aa identity with mouse, rat, bovine, and canine α6, and the human β1 ECD shares 92-96% aa sequence identity with rat, bovine, mouse, and feline β1. α6β1 shows broad specificity for adhesion to laminin isoforms (4, 10). Its expression on human and mouse pluripotent stem cells is important for attachment, expansion, and self-renewal on LN-511 (laminin $\alpha_5\beta_1\gamma_1$) (6, 7). The secreted protein Netrin-4 and the laminin γ_1 subunit form an adhesion-activating complex with α6β1 on mouse neural stem cells and human lymphatic endothelial cells that promotes lymphangiogenesis (8, 9). α6β1 up-regulation on cancers such as prostate, glioma, and hepatoma is reported to enhance tumorigenicity, motility, invasion and metastasis (12-14). α6β1 cleavage via uPA (urokinase-type plasminogen activator) facilitates tumorigenicity in prostate cancers, and interaction of hepatoma α6β1 with EMMPRIN/CD147 may also enhance tumorigenicity by inducing uPA and other metalloproteinases (12, 13).

References:

1. Takada, Y. *et al.* (2007) Genome Biol. **8**:215.
2. Luo, B-H. *et al.* (2007) Annu. Rev. Immunol. **25**:619.
3. Tamura, R.N. *et al.* (1990) J. Cell Biol. **111**:1593.
4. Nishiuchi, R. *et al.* (2006) Matrix Biol. **25**:189.
5. Sonnenberg, A. and C.J.T. Linders (1990) J. Cell Science **96**:207.
6. Rodin, S. *et al.* (2010) Nat. Biotech. **28**:611.
7. Domogatskaya A. *et al.* (2008) Stem Cells **26**:2800.
8. Staquicini, F.I. *et al.* (2009) Proc. Natl. Acad. Sci. USA **106**:2903.
9. Larrieu-Lahargue, F. *et al.* (2011) Circ. Res. **109**:770.
10. Delwel, G. O. *et al.* (1995) Cell Adhes. Commun. **3**:143.
11. Hogervorst, F. *et al.* (1993) J. Cell Biol. **121**:179.
12. Sroka, I.C. *et al.* (2011) Mol. Cancer Res. **9**:1319.
13. Dai, J.Y. *et al.* (2009) BMC Cancer **9**:337.
14. Delamarre, E. *et al.* (2009) Am. J. Pathol. **175**:844.

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