

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Integrin α 1/CD49a in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human (rh) Integrin α 2, rhIntegrin α 11, recombinant mouse (rm) Integrin α 2, and rmIntegrin α 11 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Integrin α 1/CD49a Phe29-Pro1141 Accession # P56199
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μ m filtered solution in PBS.

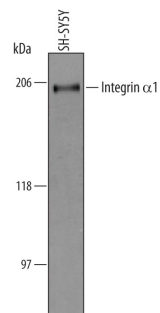
APPLICATIONS

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 μ g/mL	See Below
Flow Cytometry	2.5 μ g/10 ⁶ cells	See Below
Immunohistochemistry	5-15 μ g/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

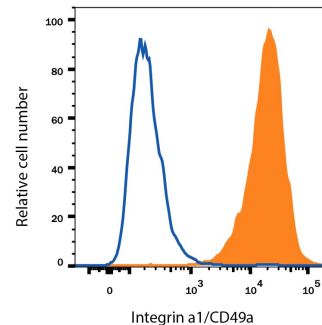
DATA

Western Blot



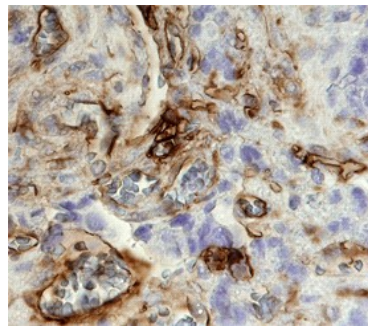
Detection of Human Integrin α 1/CD49a by Western Blot. Western blot shows lysates of SH-SY5Y human neuroblastoma cell line. PVDF membrane was probed with 1 μ g/mL of Sheep Anti-Human Integrin α 1/CD49a Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5676) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Integrin α 1/CD49a at approximately 200 kDa (as indicated). This experiment was conducted under reducing conditions and using *Immunoblot Buffer Group 8*.

Flow Cytometry



Detection of Integrin α 1/CD49a in HeLa Human Cell Line by Flow Cytometry. HeLa human cervical epithelial carcinoma cell line was stained with Sheep Anti-Human Integrin α 1/CD49a Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5676, filled histogram) or isotype control antibody (Catalog # 5-001-A, open histogram), followed by Phycoerythrin-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # F0126).

Immunohistochemistry



Integrin α 1/CD49a in Human Stomach Cancer Tissue. Integrin α 1/CD49a was detected in immersion fixed paraffin-embedded sections of human stomach cancer tissue using Sheep Anti-Human Integrin α 1/CD49a Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5676) at 10 μ g/mL overnight at 4 °C. Before incubation with the primary antibody tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). View our protocol for *Chromogenic IHC Staining of Paraffin-embedded Tissue Sections*.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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. <ul style="list-style-type: none">● 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.

BACKGROUND

Integrin α 1 (also VLA-1, CD49a and Laminin and Collagen Receptor) is a 190-210 kDa member of the integrin alpha chain family of molecules. It is found on smooth muscle cells, osteoblasts, adipocytes and intestinal epithelium. Integrin α 1 forms a noncovalent heterodimer with Integrin β 1, and serves as a divalent-cation dependent receptor for collagen types I, IV, VI, XIII and XVI. It also binds the diarrhea-associated NSP4 enterotoxin of rotavirus. Mature human Integrin α 1 is a 1151 amino acid (aa) type I transmembrane glycoprotein that contains a 1113 aa extracellular domain (ECD) and a 15 aa cytoplasmic tail. The ECD contains one vWFA/I-domain (aa 147-360) that binds collagen, plus multiple divalent cation binding sites. Potential splice variants exist that show a two and four aa substitution for aa 765-1179. Over aa 29-1141 (the ECD), human Integrin α 1 shares 88% aa identity with mouse Integrin α 1.