

For Research Use Only

# Integrin alpha 1/CD49a Recombinant monoclonal antibody

Catalog Number:87056-3-RR



## Basic Information

<b>Catalog Number:</b> 87056-3-RR	<b>GenBank Accession Number:</b> BC137121	<b>Purification Method:</b> Protein A purification
<b>Source:</b> Rabbit	<b>GeneID (NCBI):</b> 3672	<b>CloneNo.:</b> 251984D12
<b>Isotype:</b> IgG	<b>UNIPROT ID:</b> P56199	<b>Recommended Dilutions:</b> WB: 1:1000-1:4000 IHC: 1:500-1:2000 IF-P: 1:250-1:1000
<b>Immunogen Catalog Number:</b> EG2089	<b>Full Name:</b> integrin, alpha 1	
	<b>Calculated MW:</b> 1179 aa, 131 kDa	
	<b>Observed MW:</b> 180-200 kDa	

## Applications

### Tested Applications:

WB, IHC, IF-P, ELISA

### Species Specificity:

human, mouse, rat

**Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (\*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0**

### Positive Controls:

WB : HeLa cells, PC-12 cells, HepG2 cells, HT-29 cells, Neuro-2a cells

IHC : mouse spleen tissue,

IF-P : mouse spleen tissue,

## Background Information

The integrins are a superfamily of cell adhesion receptors that bind to extracellular matrix ligands, cell-surface ligands, and soluble ligands (PMID: 17543136). They are transmembrane  $\alpha\beta$  heterodimers and at least 24 distinct integrin heterodimers are formed by the combination of 18  $\alpha$  and eight  $\beta$  known subunits (PMID: 17543136; 20029421). In addition to mediating cell adhesion, integrins also play important roles in modulating signal transduction pathways that control cellular responses including migration, proliferation, differentiation, and apoptosis (PMID:19118207). Integrin alpha-1 (ITGA1, CD49a) combines with the beta 1 subunit (ITGB1, CD29) to form a cell-surface receptor for collagen and laminin. This receptor is involved in cell-cell adhesion and may play a role in inflammation and fibrosis. Integrin alpha-1 is a transmembrane glycoprotein with an apparent molecular weight of 180-250 kDa, larger than the calculated molecular weight of 131 kDa (PMID: 2475259; 3257425; 11557277; 18840653).

## Storage

### Storage:

Store at -20°C. Stable for one year after shipment.

### Storage Buffer:

PBS with 0.02% sodium azide and 50% glycerol, pH7.3

Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:

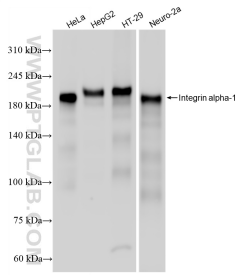
T: 4006900926

E: Proteintech-CN@ptglab.com

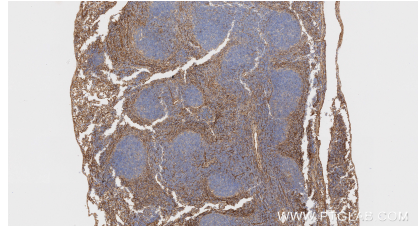
W: ptgcn.com

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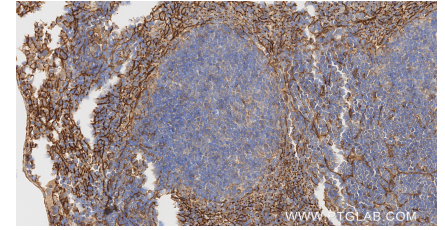
## Selected Validation Data



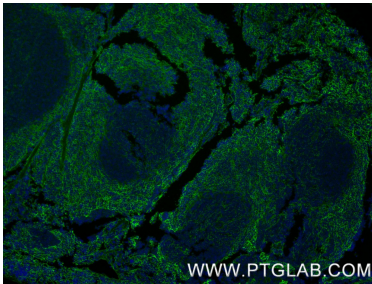
Various lysates were subjected to SDS PAGE followed by western blot with 87056-3-RR (Integrin alpha-1 antibody) at dilution of 1:2000 incubated at room temperature for 1.5 hours.



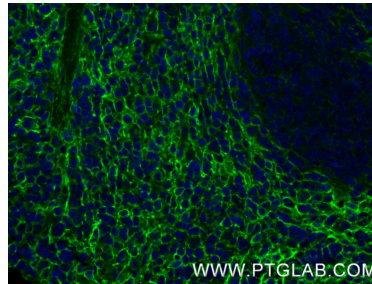
Immunohistochemical analysis of paraffin-embedded mouse spleen tissue slide using 87056-3-RR (Integrin alpha 1 antibody) at dilution of 1:1000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



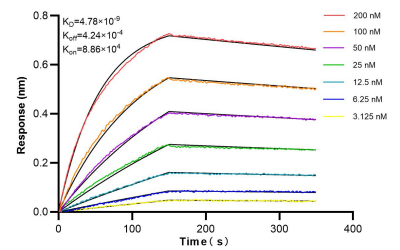
Immunohistochemical analysis of paraffin-embedded mouse spleen tissue slide using 87056-3-RR (Integrin alpha 1 antibody) at dilution of 1:1000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (4% PFA) fixed paraffin-embedded mouse spleen tissue using Integrin alpha 1 antibody (87056-3-RR, Clone: 251984D12) at dilution of 1:500 and CoraLite@488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (4% PFA) fixed paraffin-embedded mouse spleen tissue using Integrin alpha 1 antibody (87056-3-RR, Clone: 251984D12) at dilution of 1:500 and CoraLite@488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Bi-layer interferometry (BLI) kinetic assays of 87056-3-RR against Human Integrin alpha 1 were performed. The affinity constant is 4.78 nM.