

# Integrin $\alpha$ 1/CD49a Antibody



**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	200	Rabbit	#P56199	3672

## Product Usage Information

### Application

Western Blotting

### Dilution

1:1000

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA and 50% glycerol. Store at -20°C. *Do not aliquot the antibody.*

## Specificity/Sensitivity

Integrin  $\alpha$ 1/CD49a Antibody recognizes endogenous levels of total integrin  $\alpha$ 1/CD49a protein.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu794 of human integrin  $\alpha$ 1/CD49a protein. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

Integrins are  $\alpha/\beta$  heterodimeric cell surface receptors that play a pivotal role in cell adhesion and migration, as well as in growth and survival (1,2). The integrin family contains at least 18  $\alpha$  and 8  $\beta$  subunits that form 24 known integrins with distinct tissue distribution and overlapping ligand specificities (3). Integrins not only transmit signals to cells in response to the extracellular environment (outside-in signaling), but also sense intracellular cues to alter their interaction with the extracellular environment (inside-out signaling) (1,2).

Integrin  $\alpha$ 1 (CD49a, VLA-1, ITGA1) pairs with integrin  $\beta$ 1 to form an  $\alpha$ 1 $\beta$ 1 dimer on the cell surface. This integrin dimer plays important roles in colorectal cancer and pancreatic cancer cell proliferation, migration, and metastasis (4-6). The cytoplasmic tail of integrin  $\alpha$ 1 activates ERK and FAK/Src signaling to promote these biological processes (7,8). In immune systems, integrin  $\alpha$ 1 expression defines a tissue-resident cytotoxic T cell population contributing to both cancer immunity and vitiligo, an autoimmune disease (9,10).

## Background References

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- Hogervorst, F. et al. (1993) *J Cell Biol* 121, 179-91.
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- Abair, T.D. et al. (2008) *Blood* 112, 3242-54.
- Van Slambrouck, S. et al. (2007) *Int J Oncol* 31, 1501-8.
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## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting

## Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat

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