

Integrin $\alpha 4$ Antibody



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 70, 140, 150, (180)	Source/Isotype: Rabbit	UniProt ID: #P13612	Entrez-Gene Id: 3676
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Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:100

Storage

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

Specificity/Sensitivity

Integrin $\alpha 4$ Antibody detects endogenous levels of integrin $\alpha 4$ mature protein (150kDa), $\alpha 4$ precursor protein (140kDa), as well as 70 kDa cleaved C-terminal $\alpha 4$ fragment.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser1027 of human integrin $\alpha 4$. Antibodies are purified by peptide affinity chromatography.

Background

Integrins are α/β 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 α and 8 β 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).

A pair of important $\alpha 4$ integrins, $\alpha 4\beta 1$ and $\alpha 4\beta 7$, interact with VCAM-1, fibronectin, and MAdCAM-1 at cell adhesions (3). Gene knockout and antibody blocking research reveal that $\alpha 4$ integrins play important roles in embryonic liver and heart development and in fetal lymphocyte homing (4-6). Phosphorylation at Ser988 within the cytoplasmic tail of integrin $\alpha 4$ blocks binding to paxillin and promotes leading edge migration (7,8).

On SDS-PAGE, integrin $\alpha 4$ can migrate at several different apparent molecular sizes, a 150 kDa mature protein and a 140 kDa precursor protein (a 180 kDa protein also exists under mild non-reducing conditions) (9). Integrin $\alpha 4$ has a cleavage site at Arg558, which results in a small portion of the protein as either an 80 kDa N-terminal or 70 kDa C-terminal fragment (10).

Background References

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- Yang, J.T. et al. (1995) *Development* 121, 549-60.
- Nishiya, N. et al. (2005) *Nat Cell Biol* 7, 343-52.
- Alon, R. et al. (2005) *J Cell Biol* 171, 1073-84.
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- Pujades, C. et al. (1996) *Biochem J* 313 (Pt 3), 899-908.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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