

#8440 Store at -20°C

Integrin $\alpha 4$ (D2E1) XP® Rabbit mAb


Cell Signaling
TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, IF-IC, FC-FP	H M R	Endogenous	70, 140, 150,	Rabbit IgG	#P13612	3676

Product Usage Information

Application

Western Blotting
Immunoprecipitation
Immunofluorescence (Immunocytochemistry)
Flow Cytometry (Fixed/Permeabilized)

Dilution

1:1000
1:100
1:200
1:200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Integrin $\alpha 4$ (D2E1) XP® Rabbit mAb recognizes endogenous levels of total integrin $\alpha 4$ protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser1027 of human integrin $\alpha 4$ protein.

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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- Nishiya, N. et al. (2005) *Nat Cell Biol* 7, 343-52.
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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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)
FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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