Revision 1

Integrin α9β1 (Y9A2) Mouse mAb

#4703 Store at -20C

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IP, FC-FP	H	Endogenous	150: alpha9, 130: beta1	Mouse IgG1	#P05556, #Q13797	3688, 3680

Product Usage Information

Application	Dilution
Immunoprecipitation	1:50
Flow Cytometry (Fixed/Permeabilized)	1:400

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 α9β1 (Y9A2) Mouse mAb detects endogenous levels of total α9/β1 integrin heterodimer.

Source / Purification

Monoclonal antibody is produced by immunizing animals with murine L cells transfected with human α9 integrin protein.

Background

Integrins are transmembrane glycoproteins that form heterodimers consisting of one α and one β subunit. The dimers act as receptors for extracellular matrix (ECM) proteins at sites of cell adhesion, and interact with focal adhesion (FA) proteins on the cytosolic side, forming the connection between the ECM and the actin cytoskeleton. Signaling to and from integrins regulates cell adhesion, motility, proliferation, apoptosis and gene expression, impacting cellular processes such as development, wound healing, immune response, invasion, metastasis and angiogenesis (reviewed in 1,2). α9β1 integrin is expressed in epithelial cells, smooth and skeletal muscle, neutrophils and hepatocytes (3). Its ligands include the ECM protein tenascin (4) and vascular cell adhesion molecule-1 (VCAM-1) (5). The cytoplasmic domain of α9 integrin binds the focal adhesion adaptor protein, paxillin, inhibiting cell spreading (6,7). Binding of the α9 cytoplasmic domain to spermidine/spermine N(1)-acetyltransferase (SSAT) mediates α9/β1 enhancement of cell migration (8). Physiological functions include development of the lymphatic system (9), possibly through binding to the lymphatic vascular endothelial growth factors VEGF-C and -D (10), neutrophil migration (5), and myogenic differentiation (11).

Background References

1. Calderwood, D.A. et al. (2000) *J Biol Chem* 275, 22607-10.
2. ffrench-Constant, C. and Colognato, H. (2004) *Trends Cell. Biol.* 14, 678-686.
3. Palmer, E.L. et al. (1993) *J. Cell Biol.* 123, 1289-1297.
4. Yokosaki, Y. et al. (1994) *J. Biol. Chem.* 269, 26691-26696.
5. Taooka, Y. et al. (1999) *J. Cell Biol.* 145, 413-420.
6. Young, B.A. et al. (2001) *Mol. Biol. Cell* 12, 3214-3225.
7. Liu, S. et al. (2001) *J. Biol. Chem.* 276, 37086-37092.
8. Chen, C. et al. (2004) *J. Cell Biol.* 167, 161-170.
9. Huang, X.Z. et al. (2000) *Mol. Cell Biol.* 20, 5208-5215.
10. Vlahakis, N.E. et al. (2005) *J. Biol. Chem.* 280, 4544-4552.
11. Lafuste, P. et al. (2005) *Mol. Biol. Cell* 16, 861-870.

Species Reactivity

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

Applications Key

IP: Immunoprecipitation **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human

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Limited Uses

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