Revision 1

Myosin IIb Antibody

Store at -20C

#3404

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IF-IC	H M Mk	Endogenous	230	Rabbit	#P35580	4628

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Immunocytochemistry)	1:200

Storage

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

Specificity/Sensitivity

Myosin IIb Antibody detects endogenous levels of total myosin IIb protein. The antibody does not cross-react with the nonmuscle heavy chains of myosin IIa or IIc.

Species predicted to react based on 100% sequence homology

Rat

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the carboxy terminus of human myosin IIb.

Background

Nonmuscle myosin is an actin-based motor protein essential to cell motility, cell division, migration, adhesion, and polarity. The holoenzyme consists of two identical heavy chains and two sets of light chains. The light chains (MLCs) regulate myosin II activity and stability. The heavy chains (NMHCs) are encoded by three genes, *MYH9*, *MYH10*, and *MYH14*, which generate three different nonmuscle myosin II isoforms, IIa, IIb, and IIc, respectively (reviewed in 1). While all three isoforms perform the same enzymatic tasks, binding to and contracting actin filaments coupled to ATP hydrolysis, their cellular functions do not appear to be redundant and they have different subcellular distributions (2-5). The carboxy-terminal tail domain of myosin II is important in isoform-specific subcellular localization (6). Research studies have shown that phosphorylation of myosin IIa at Ser1943 contributes to the regulation of breast cancer cell migration (7).

Background References

1. Conti, M.A. and Adelstein, R.S. (2008) *J Cell Sci* 121, 11-18.
2. Sandquist, J.C. et al. (2006) *J Biol Chem* 281, 35873-83.
3. Even-Ram, S. et al. (2007) *Nat Cell Biol* 9, 299-309.
4. Vicente-Manzanares, M. et al. (2007) *J Cell Biol* 176, 573-80.
5. Wylie, S.R. and Chantler, P.D. (2008) *Mol Biol Cell* 19, 3956-68.
6. Sandquist, J.C. and Means, A.R. (2008) *Mol Biol Cell* 19, 5156-67.
7. Dulyaninova, N.G. et al. (2007) *Mol Biol Cell* 18, 3144-55.

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 **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **Mk:** Monkey

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Limited Uses

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