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Anti-Myosin IIA Heavy Chain (C-terminal region) Antibody

Catalog # AN1843

Product Information

Application	WB, ICC
Primary Accession	P35579
Host	Rabbit
Clonality	Rabbit Polyclonal
Isotype	IgG
Calculated MW	226532

Additional Information

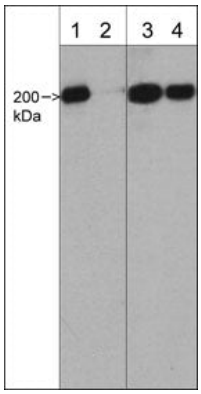
Gene ID	4627
Other Names	NMHC-IIA, MYH9, myosin heavy chain
Target/Specificity	Nonmuscle myosin II is an actin-based motor protein essential to cell motility, cell division, migration, adhesion and polarity. This myosin forms a hexameric complex comprised of two heavy chains (NMHC-II), two essential light chains, and two regulatory light chains (RLC). In vertebrates, there are three NMHC-II isoforms (NMHC-IIA, NMHC-IIB, and NMHC-IIC), which exhibit distinct patterns of expression in cells and tissues. Regulation of NMHC-II activity occurs through RLC and HC phosphorylation. RLCs are phosphorylated at Thr-18 and Ser-19, leading to activation of myosin II motor activity and increased myosin filament stability. By contrast, PKC phosphorylation of Ser-1/Ser-2 and Thr-9 in RLC may decrease activated myosin II interaction with actin. NMHC-II phosphorylation may be an important mode for regulating myosin-II assembly. PKC phosphorylates NMHC-IIA on Ser-1916 in the C-terminal region and NMHC-IIB on multiple serines in the tailpiece. Casein kinase II phosphorylates NMHC-IIA on Ser-1943 in the tailpiece and increases disassembly of NMHC-IIA filaments.
Dilution	WB~~1:1000 ICC~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Anti-Myosin IIA Heavy Chain (C-terminal region) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.
Shipping	Blue Ice

Background

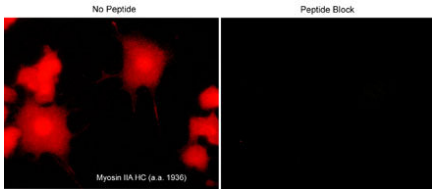
Nonmuscle myosin II is an actin-based motor protein essential to cell motility, cell division, migration, adhesion and polarity. This myosin forms a hexameric complex comprised of two heavy chains (NMHC-II), two essential light chains, and two regulatory light chains (RLC). In vertebrates, there are three NMHC-II

isoforms (NMHC-IIA, NMHC-IIB, and NMHC-IIC), which exhibit distinct patterns of expression in cells and tissues. Regulation of NMHC-II activity occurs through RLC and HC phosphorylation. RLCs are phosphorylated at Thr-18 and Ser-19, leading to activation of myosin II motor activity and increased myosin filament stability. By contrast, PKC phosphorylation of Ser-1/Ser-2 and Thr-9 in RLC may decrease activated myosin II interaction with actin. NMHC-II phosphorylation may be an important mode for regulating myosin-II assembly. PKC phosphorylates NMHC-IIA on Ser-1916 in the C-terminal region and NMHC-IIB on multiple serines in the tailpiece. Casein kinase II phosphorylates NMHC-IIA on Ser-1943 in the tailpiece and increases disassembly of NMHC-IIA filaments.

Images



Western blot image of human A431 cells. The blots were untreated (lanes 1 & 3) or treated with lambda phosphatase (lanes 2 & 4), then probed with rabbit polyclonal Myosin IIA Heavy Chain (Ser-1943), phospho-specific antibody (lanes 1 & 2) or rabbit polyclonal Myosin IIA Heavy Chain (a.a. 1936-1950) antibody (lanes 3 & 4).



Immunocytochemical labeling of Slingshot-1L in rat PC12 cells differentiated with NGF. The cells were labeled with rabbit polyclonal anti-Myosin IIA Heavy Chain (a.a. 1936-1950), then detected using appropriate secondary antibody conjugated to Cy3. The antibody was used in the absence (left) or presence (right) of blocking peptide (MX3795).