SANTA CRUZ BIOTECHNOLOGY, INC.

p-MYL9 (Ser 19)-R: sc-19849-R

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Myosin is a highly conserved, ubiquitously expressed protein that interacts with Actin to generate the force for cellular movements. Conventional myosins are hexameric proteins consisting of two heavy chain subunits, a pair of non-phosphorylatable light chain subunits and a pair of phosphorylatable light chain subunits. Three general classes of myosin have been cloned: smooth muscle myosins, striated muscle myosins and non-muscle myosins. Myosin light chain 9, which is encoded by MYL9, is one of the numerous regulatory myosin light chains. Regulatory myosin light chains, also known as MLCs, regulate contraction in smooth muscle and non-muscle cells via phosphorylation by myosin light chain kinase (MLCK). Phosphorylation of regulatory myosin light chains is catalyzed by MLCK in the presence of calcium and calmodulin and it increases the Actin-activated myosin ATPase activity, thereby regulating the contractile activity. Myosin light chain is also located in striated skeletal muscle, where its function remains undefined.

SOURCE

p-MYL9 (Ser 19)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 19 phosphorylated MYL9 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19849 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-MYL9 (Ser 19)-R is recommended for detection of Ser 19 phosphorylated MYL9, nonsarcomeric and smooth muscle isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); also recommended for detection of correspondingly phosphorylated MRLC2 and MRCL3 of human origin and Mylc2b of mouse and rat origin.

p-MYL9 (Ser 19)-R is also recommended for detection of correspondingly phosphorylated MYL9, nonsarcomeric and smooth muscle isoforms in additional species, including equine, porcine and avian.

Suitable for use as control antibody for MYL9 siRNA (h): sc-35939, MYL9 siRNA (m): sc-35940, MYL9 shRNA Plasmid (h): sc-35939-SH, MYL9 shRNA Plasmid (m): sc-35940-SH, MYL9 shRNA (h) Lentiviral Particles: sc-35939-V and MYL9 shRNA (m) Lentiviral Particles: sc-35940-V.

Molecular Weight of p-MYL9: 18-20 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

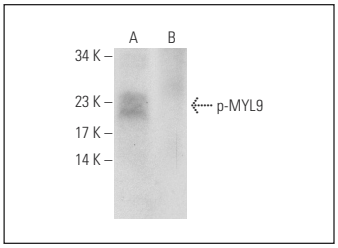
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



p-MYL9 (Ser 19)-R: sc-19849-R. Western blot analysis of MYL9 phosphorylation in untreated (**A**) and lambda protein phosphatase (sc-200312A) treated (**B**) HeLa whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hersch, E., et al. 2004. G_q/G_{13} signaling by ET-1 in smooth muscle: MYPT1 phosphorylation via ET_A and CPI-17 dephosphorylation via ET_B. Am. J. Physiol., Cell Physiol. 287: C1209-C1218.
2. Huang, J., et al. 2006. G_i-coupled receptors mediate phosphorylation of CPI-17 and MLC20 via preferential activation of the PI3K/ILK pathway. Biochem. J. 396: 193-200.
3. Goffin, J.M., et al. 2006. Focal adhesion size controls tension-dependent recruitment of α-smooth muscle actin to stress fibers. J. Cell Biol. 172: 259-268.
4. Lange, K., et al. 2008. Combined lysophosphatidic acid/platelet-derived growth factor signaling triggers glioma cell migration in a tenascin-C microenvironment. Cancer Res. 68: 6942-6952.
5. Thill, R., et al. 2008. Identification and characterization of the unique guanine nucleotide exchange factor, SmgGDS, in vascular smooth muscle cells. J. Cell. Biochem. 104: 1760-1770.
6. O'Hara, S.P., et al. 2010. Cholangiocyte myosin IIB is required for localized aggregation of sodium glucose cotransporter 1 to sites of *Cryptosporidium parvum* cellular invasion and facilitates parasite internalization. Infect. Immun. 78: 2927-2936.
7. Baixauli, F., et al. 2011. The mitochondrial fission factor dynamin-related protein 1 modulates T-cell receptor signalling at the immune synapse. EMBO J. 30: 1238-1250.
8. Bhetwal, B.P., et al. 2013. Impaired contractile responses and altered expression and phosphorylation of Ca^{2+} sensitization proteins in gastric antrum smooth muscles from ob/ob mice. J. Muscle Res. Cell Motil. 34: 137-149.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.