

Datasheet for ABIN117974

anti-MYL12A antibody (pSer19, pSer20)

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Overview

Quantity:	0.1 mg
Target:	MYL12A
Binding Specificity:	pSer19, pSer20
Reactivity:	Avian, Mammalian
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This MYL12A antibody is un-conjugated
Application:	Western Blotting (WB), Immunoprecipitation (IP), Enzyme Immunoassay (EIA), Immunohistochemistry (Paraffin-embedded Sections) (IHC (p))

Product Details

Immunogen:	Human Myosin Light Chain phospho peptide corresponding to a region of the Human smooth/non-muscle form of Myosin regulatory light chain conjugated to Keyhole Limpet Hemocyanin (KLH).
Sequence:	K-K-R-P-Q-R-A-T-(pS)-N-V-F-A-M-F-D (aa 12-27 of Human sequence, aa 12-28 of Mouse)
Specificity:	This antibody is specific for the phosphorylated form of myosin light chain. This affinity purified antibody is directed against the regulatory light chain of smooth and nonmuscle myosin. The antibody is phosphospecific and detect monophosphorylated and diphosphorylated forms of the protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. Antiserum was first purified against the phosphorylated form of the immunizing peptide. The resultant affinity purified antibody was then cross-adsorbed against the non-phosphorylated form of the immunizing peptide. This phospho specific polyclonal antibody is

Product Details

specific for phosphorylated pS20 of the protein. Reactivity with non-phosphorylated myosin light chain is less than 1 % by ELISA. Cross reactivity with myosin light chain from other species has not been determined, however, the sequence of the immunogen is identical in mammalian and avian species. BLAST search analysis was used to determine that the smooth and non-muscle forms of myosin regulatory light chain have identical sequences. Cross reactivity is expected.

Cross-Reactivity (Details): Species reactivity (tested):Human.

Purification: Immunoaffinity Chromatography.

Target Details

Target: MYL12A

Alternative Name: MYL12A ([MYL12A Products](#))

Background: Myosin is the major component of thick muscle filaments, and is a long asymmetric molecule containing a globular head and a long tail. The molecule consists of two heavy chains each ~200,000 daltons, and four light chains each ~16,000 - 21,000 daltons. Activation of smooth and cardiac muscle primarily involves pathways which increase calcium and myosin phosphorylation resulting in contraction. Myosin light chain phosphatase acts to regulate muscle contraction by dephosphorylating activated myosin light chain. The selected peptide sequence used to generate the polyclonal antibody is located near the amino terminal end of the polypeptide corresponding to the smooth/non-muscle form of myosin regulatory light chain found in cardiac myocytes in addition to smooth and non-muscle cells. This sequence differs from that of the sarcomeric/cardiac form of myosin regulatory light chain that has a different sequence around the phosphorylation site. Human and mouse have almost identical sequences. In human the phosphorylation site is pS19, while in mouse the site maps to pS20.Synonyms: MLC-2B, MLCB, MRLC3, Myosin RLC, Myosin regulatory light chain 12A, Myosin regulatory light chain 2 nonsarcomeric, Myosin regulatory light chain MRLC3, RLC

Gene ID: 10627

NCBI Accession: [NP_006462](#)

UniProt: [P19105](#)

Application Details

Application Notes: This phospho specific polyclonal antibody was tested by ELISA, Immunohistochemistryand

Application Details

Immunoblotting and was found to be reactive with unstimulated and stimulated cardiac myocytes and the phosphorylated form of the immunizing peptide and minimally reactive with the non-phosphorylated form of the immunizing peptide.

Restrictions: For Research Use only

Handling

Concentration: 0.92 mg/mL (by UV absorbance at 280 nm)

Buffer: 0.02 M Potassium Phosphate, 0.12 M Sodium Chloride, pH 7.2 with 0.01 % (w/v) Sodium Azide as preservative.

Preservative: Sodium azide

Precaution of Use: This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: 4 °C

Storage Comment: Store undiluted at 2-8 °C. DO NOT FREEZE!

Publications

Product cited in: Kaufmann, Martinka, Moede, Sendeski, Steege, Föhling, Hultström, Gaestel, Moraes-Silva, Nikitina, Liu, Zavaritskaya, Patzak: "Noradrenaline enhances angiotensin II responses via p38 MAPK activation after hypoxia/re-oxygenation in renal interlobar arteries." in: **Acta physiologica (Oxford, England)**, Vol. 213, Issue 4, pp. 920-32, (2015) ([PubMed](#)).

Young, Kretchmer, Ondeck, Zambon, Engler: "Mechanosensitive kinases regulate stiffness-induced cardiomyocyte maturation." in: **Scientific reports**, Vol. 4, pp. 6425, (2015) ([PubMed](#)).

Gao, Peleli, Zollbrecht, Patzak, Persson, Carlström: "Adenosine A1 receptor-dependent and independent pathways in modulating renal vascular responses to angiotensin II." in: **Acta physiologica (Oxford, England)**, Vol. 213, Issue 1, pp. 268-76, (2014) ([PubMed](#)).

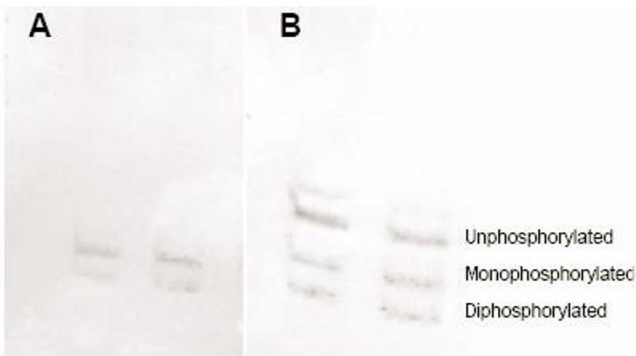
Schott, Grosskinsky, Brenner, Kraiczy, Wallich: "Molecular characterization of the interaction of *Borrelia parkeri* and *Borrelia turicatae* with human complement regulators." in: **Infection and immunity**, Vol. 78, Issue 5, pp. 2199-208, (2010) ([PubMed](#)).

Patzak, Lai, Föhling, Sendeski, Martinka, Persson, Persson: "Adenosine enhances long term the

contractile response to angiotensin II in afferent arterioles." in: **American journal of physiology. Regulatory, integrative and comparative physiology**, Vol. 293, Issue 6, pp. R2232-42, (2008) ([PubMed](#)).

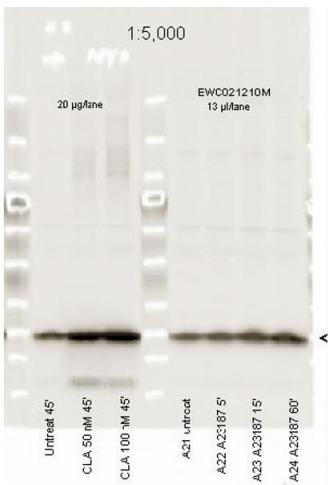
There are more publications referencing this product on: [Product page](#)

Images



Western Blotting

Image 1. Immunoblotting. Affinity purified phosphospecific antibody to phosphorylated regulatory light chain of smooth and non-muscle Myosin at pS20 was used at a 1:1000 dilution to detect myosin light chain by Western blot on 3T3 cell lysates. A standard urea/glycerol gel without SDS was used to separate phospho forms of regulatory light chain according to mass to charge ratios. In Panel A reactivity of phospho specific antibody is shown. In Panel B reactivity of commercially available pan reactive antibody that detects both unphosphorylated and phosphorylated forms of regulatory light chain is shown. This phospho specific antibody detects both monophosphorylated (pSer20 Mono-P-RLC) and diphosphorylated (pThr19-pSer20 Di-P-RLC) regulatory light chain. Personal communication. J. Stull. UT Southwestern Medical Center.



Western Blotting

Image 2. Immunoblotting. Affinity Purified Phosphospecific antibody to Monophosphorylated Regulatory Light Chain of Smooth and Non-muscle Myosin at pS20 was used at a 1:5000 dilution to detect myosin light chain by Western blot. Either 13 or 20 ul of a mouse cardiac myocyte lysate was loaded on a 4-20% Criterion gel for SDS-PAGE. Samples were either mock-treated or CLA treated according as indicated. After washing, a 1:5,000 dilution of HRP conjugated Gt-a-Rabbit IgG preceded color development

using Amersham's substrate system. Other detection methods will yield similar results. Data courtesy of the Alliance for Cellular Signaling (<http://www.signaling-gateway.org>).