

MYBPC3 (K-16): sc-50115

BACKGROUND

MYBPC3 (myosin-binding protein C, cardiac) encodes the cardiac isoform of the thick-filament myosin-binding protein C. It is found in the crossbridge-bearing zone (C region) of A bands in vertebrate striated muscle. Regulatory phosphorylation of MYBPC3 by cAMP-dependent protein kinase (PKA) upon adrenergic stimulation may be linked to modulation of cardiac contraction. MYBPC3 binds F-Actin, MHC and native thin filaments, and modifies the activity of Actin-activated myosin ATPase. Mutations in the MYBPC3 gene lead mainly to truncation of the protein, which results in one cause of familial hypertrophic cardiomyopathy type 4 (CMH4), a heart disorder characterized by ventricular hypertrophy, which often involves the interventricular septum and is usually asymmetric. The MYBPC3 gene maps to chromosome 11p11.2.

CHROMOSOMAL LOCATION

Genetic locus: MYBPC3 (human) mapping to 11p11.2; Mybpc3 (mouse) mapping to 2 E1.

SOURCE

MYBPC3 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MYBPC3 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-50115 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MYBPC3 (K-16) is recommended for detection of MYBPC3 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).

MYBPC3 (K-16) is also recommended for detection of MYBPC3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MYBPC3 siRNA (h): sc-61111, MYBPC3 siRNA (m): sc-61112, MYBPC3 shRNA Plasmid (h): sc-61111-SH, MYBPC3 shRNA Plasmid (m): sc-61112-SH, MYBPC3 shRNA (h) Lentiviral Particles: sc-61111-V and MYBPC3 shRNA (m) Lentiviral Particles: sc-61112-V.

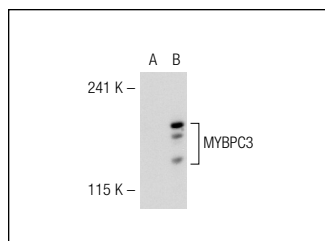
Molecular Weight of MYBPC3: 144 kDa.

Positive Controls: MYBPC3 (h2): 293T Lysate: sc-112857, mouse heart extract: sc-2254 or rat heart extract: sc-2393.

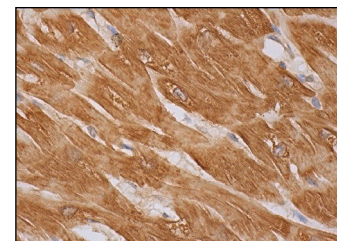
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MYBPC3 (K-16): sc-50115. Western blot analysis of MYBPC3 expression in non-transfected: sc-117752 (A) and human MYBPC3 transfected: sc-112857 (B) 293T whole cell lysates.



MYBPC3 (K-16): sc-50115. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

- Lee, E.J., et al. 2010. Calcium sensitivity and the Frank-Starling mechanism of the heart are increased in titin N2B region-deficient mice. *J. Mol. Cell. Cardiol.* 49: 449-458.
- Sarin, V., et al. 2011. Ca²⁺ sensitization of cardiac myofilament proteins contributes to exercise training-enhanced myocardial function in a porcine model of chronic occlusion. *Am. J. Physiol. Heart Circ. Physiol.* 301: H1579-H1587.
- Zhu, H., et al. 2012. Impaired N-cadherin-mediated adhesion increases the risk of inducible ventricular arrhythmias in isolated rat hearts. *Sci. Res. Essays* 7: 2983-2991.

RESEARCH USE

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

PROTOCOLS

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



Try **MYBPC3 (G-7): sc-137237** or **MYBPC3 (G-1): sc-137182**, our highly recommended monoclonal alternatives to MYBPC3 (K-16).