

# MYBPC3 (E-7): sc-137180

## 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 (E-7) is a mouse monoclonal antibody raised against amino acids 1-120 mapping at the N-terminus of MYBPC3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MYBPC3 (E-7) is available conjugated to agarose (sc-137180 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137180 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137180 PE), fluorescein (sc-137180 FITC), Alexa Fluor® 488 (sc-137180 AF488), Alexa Fluor® 546 (sc-137180 AF546), Alexa Fluor® 594 (sc-137180 AF594) or Alexa Fluor® 647 (sc-137180 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137180 AF680) or Alexa Fluor® 790 (sc-137180 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

MYBPC3 (E-7) is recommended for detection of MYBPC3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

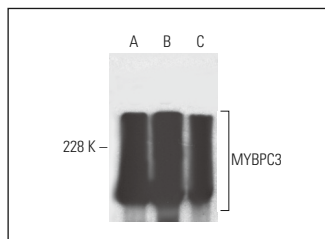
Molecular Weight of MYBPC3: 144 kDa.

Positive Controls: rat heart extract: sc-2393, mouse heart extract: sc-2254 or human heart extract: sc-363763.

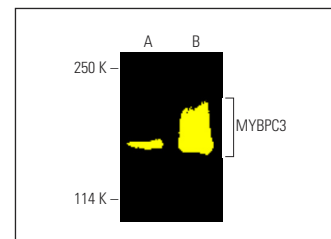
## STORAGE

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

## DATA



MYBPC3 (E-7) HRP: sc-137180 HRP. Direct western blot analysis of MYBPC3 expression in mouse heart (A), rat heart (B) and human heart (C) tissue extracts.



MYBPC3 (E-7): sc-137180. Fluorescent western blot analysis of MYBPC3 expression in mouse heart (A) and rat heart (B) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG<sub>1</sub> BP-CFL 488: sc-533661.

## SELECT PRODUCT CITATIONS

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- Sequeira, V., et al. 2015. ADP-stimulated contraction: a predictor of thin-filament activation in cardiac disease. *Proc. Natl. Acad. Sci. USA* 112: E7003-E7012.
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- Bogdanovic, E., et al. 2020. The sodium channel NaX: possible player in excitation-contraction coupling. *IUBMB Life* 72: 601-606.
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- Sakamoto, T., et al. 2022. The nuclear receptor ERR cooperates with the cardiogenic factor GATA4 to orchestrate cardiomyocyte maturation. *Nat. Commun.* 13: 1991.

## RESEARCH USE

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