

Myozenin 2 (E-11): sc-377359

BACKGROUND

The calcineurin-binding protein Myozenin 2, also designated calsarcin-1, is a member of the calsarcin protein family. Calcineurin is a calcium- and calmodulin-dependent protein phosphatase that is involved in controlling the slow fiber gene expression in skeletal muscle and hypertrophy of cardiac muscle. The calsarcons are sarcomeric proteins that couple calcineurin and muscle activity. In cardiac and skeletal muscle cells, Myozenin 2 binds calcineurin to α -actinin at the Z-line of the sarcomere. During embryogenesis, Myozenin 1 and 2 are expressed in developing muscle. The Myozenin 2 gene maps to chromosome 4q26 and is expressed specifically in adult cardiac and slow-twitch skeletal muscle, while Myozenin 1 is only detected in fast skeletal muscle.

REFERENCES

- Ahmad, F., et al. 2000. Identification and characterization of a novel gene (C4orf5) located on human chromosome 4q with specific expression in cardiac and skeletal muscle. *Genomics* 70: 347-353.
- Frey, N., et al. 2000. Calsarcons, a novel family of sarcomeric calcineurin-binding proteins. *Proc. Natl. Acad. Sci. USA* 97: 14632-14637.
- Faulkner, G., et al. 2000. FATZ, a Filamin-, Actinin-, and Telethonin-binding protein of the Z-disc of skeletal muscle. *J. Biol. Chem.* 275: 41234-41242.
- Takada, F., et al. 2001. Myozenin: an α -Actinin- and γ -Filamin-binding protein of skeletal muscle Z-lines. *Proc. Natl. Acad. Sci. USA* 98: 1595-1600.

CHROMOSOMAL LOCATION

Genetic locus: MYOZ2 (human) mapping to 4q26; Myoz2 (mouse) mapping to 3 G1.

SOURCE

Myozenin 2 (E-11) is a mouse monoclonal antibody raised against amino acids 51-100 mapping near the N-terminus of Myozenin 2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Myozenin 2 (E-11) is available conjugated to agarose (sc-377359 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377359 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377359 PE), fluorescein (sc-377359 FITC), Alexa Fluor[®] 488 (sc-377359 AF488), Alexa Fluor[®] 546 (sc-377359 AF546), Alexa Fluor[®] 594 (sc-377359 AF594) or Alexa Fluor[®] 647 (sc-377359 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377359 AF680) or Alexa Fluor[®] 790 (sc-377359 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

Myozenin 2 (E-11) is recommended for detection of Myozenin 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 Myozenin 2 siRNA (h): sc-45710, Myozenin 2 siRNA (m): sc-45711, Myozenin 2 shRNA Plasmid (h): sc-45710-SH, Myozenin 2 shRNA Plasmid (m): sc-45711-SH, Myozenin 2 shRNA (h) Lentiviral Particles: sc-45710-V and Myozenin 2 shRNA (m) Lentiviral Particles: sc-45711-V.

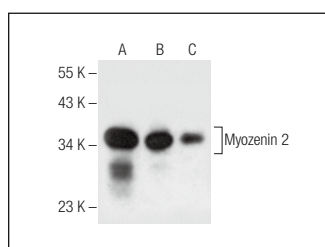
Molecular Weight of Myozenin 2: 34 kDa.

Positive Controls: mouse heart extract: sc-2254, human skeletal muscle extract: sc-363776 or human heart extract: sc-363763.

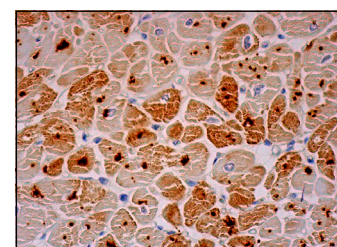
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Myozenin 2 (E-11): sc-377359. Western blot analysis of Myozenin 2 expression in mouse heart (A), human heart (B) and human skeletal muscle (C) tissue extracts.



Myozenin 2 (E-11): sc-377359. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

- Abdul-Ghani, S., et al. 2014. Cardiac phosphoproteomics during remote ischemic preconditioning: a role for the sarcomeric Z-disk proteins. *Biomed Res. Int.* 2014: 767812.

RESEARCH USE

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