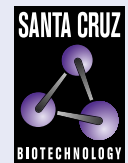


calsequestrin 1 (D-10): sc-137080



The Power to Question

BACKGROUND

Calsequestrin (CS, also known as CSQ) is the major calcium-binding protein of cardiac and skeletal muscle whose function is to sequester calcium in the lumen of the sarcoplasmic reticulum (SR). In mammals, there are two forms of this protein, calsequestrin 1 and calsequestrin 2, which encode fast-twitch skeletal muscle and cardiac calsequestrin, respectively. Calsequestrin 1, also known as calmitin, is located in the terminal cisternae luminal spaces of the SR of fast skeletal muscle cells. Calsequestrin 2 is present in terminal cisternae luminal spaces of the SR of both cardiac and slow skeletal muscle cells. In addition, calsequestrin regulates the ryanodine receptor signaling (RyR) through Triadin and Junctin.

CHROMOSOMAL LOCATION

Genetic locus: CASQ1 (human) mapping to 1q23.2; Casq1 (mouse) mapping to 1 H3.

SOURCE

calsequestrin 1 (D-10) is a mouse monoclonal antibody raised against amino acids 31-90 mapping near the N-terminus of calsequestrin 1 of human origin.

PRODUCT

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

calsequestrin 1 (D-10) is available conjugated to agarose (sc-137080 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137080 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137080 PE), fluorescein (sc-137080 FITC), Alexa Fluor® 488 (sc-137080 AF488), Alexa Fluor® 546 (sc-137080 AF546), Alexa Fluor® 594 (sc-137080 AF594) or Alexa Fluor® 647 (sc-137080 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137080 AF680) or Alexa Fluor® 790 (sc-137080 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

calsequestrin 1 (D-10) is recommended for detection of calsequestrin 1 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), 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).

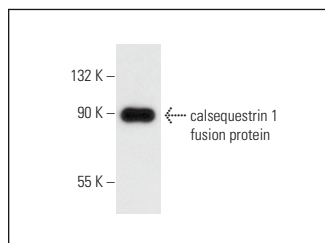
Suitable for use as control antibody for calsequestrin 1 siRNA (h): sc-43275, calsequestrin 1 siRNA (m): sc-43276, calsequestrin 1 shRNA Plasmid (h): sc-43275-SH, calsequestrin 1 shRNA Plasmid (m): sc-43276-SH, calsequestrin 1 shRNA (h) Lentiviral Particles: sc-43275-V and calsequestrin 1 shRNA (m) Lentiviral Particles: sc-43276-V.

Molecular Weight of calsequestrin 1: 63 kDa.

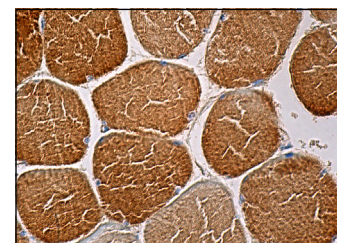
Positive Controls: mouse heart extract: sc-2254, rat heart extract: sc-2393 or rat skeletal muscle extract: 364810.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA

calsequestrin 1 (D-10): sc-137080. Western blot analysis of human recombinant calsequestrin 1 fusion protein.



calsequestrin 1 (D-10): sc-137080. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

- Wang, L., et al. 2015. Retrograde regulation of STIM1-Orai1 interaction and store-operated Ca²⁺ entry by calsequestrin. *Sci. Rep.* 5: 11349.
- Picard, B., et al. 2016. Calcium homeostasis and muscle energy metabolism are modified in HspB1-null mice. *Proteomes* 4: 17.
- Foditsch, E.E., et al. 2016. Skeletal muscle proteins: a new approach to delimitate the time since death. *Int. J. Legal Med.* 130: 433-440.
- Watanabe, S., et al. 2022. Skeletal muscle releases extracellular vesicles with distinct protein and microRNA signatures that function in the muscle microenvironment. *PNAS Nexus* 2: pgad071.
- Laskin, G.R., et al. 2025. Short-term aerobic exercise prevents development of glucocorticoid myopathic features in aged skeletal muscle in a sex-dependent manner. *J. Physiol.* 603: 127-149.

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.