

calsequestrin 1 (H-60): sc-28274

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 (H-60) is a rabbit polyclonal antibody raised against amino acids 31-90 mapping near the N-terminus of calsequestrin 1 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.

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.

APPLICATIONS

calsequestrin 1 (H-60) is recommended for detection of calsequestrin 1 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), 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).

calsequestrin 1 (H-60) is also recommended for detection of calsequestrin 1 in additional species, including equine, canine and bovine.

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.

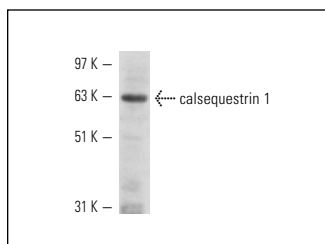
Molecular Weight of calsequestrin 1: 63 kDa.

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

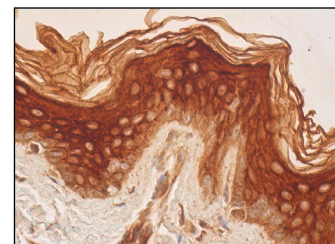
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



calsequestrin 1 (H-60): sc-28274. Western blot analysis of calsequestrin 1 expression in mouse heart tissue extract.



calsequestrin 1 (H-60): sc-28274. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, melanocytes, epidermal cells and Langerhans cells.

SELECT PRODUCT CITATIONS

- Aydin, J., et al. 2009. Increased mitochondrial Ca²⁺ and decreased sarcoplasmic reticulum Ca²⁺ in mitochondrial myopathy. *Hum. Mol. Genet.* 18: 278-288.
- Zhu, Z., et al. 2012. Potential regulatory role of calsequestrin in platelet Ca²⁺ homeostasis and its association with platelet hyperactivity in diabetes mellitus. *J. Thromb. Haemost.* 10: 116-124.
- Lipskaia, L., et al. 2014. Expression of sarco (endo) plasmic reticulum calcium ATPase (SERCA) system in normal mouse cardiovascular tissues, heart failure and atherosclerosis. *Biochim. Biophys. Acta* 1843: 2705-2718.

PROTOCOLS

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



Try **calsequestrin 1 (D-10): sc-137080** or **calsequestrin 1 (VIII12): sc-53012**, our highly recommended monoclonal alternatives to calsequestrin 1 (H-60).