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- Expressversand

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# calsequestrin 2 (h): 293T Lysate: sc-172435

## 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. The form of calsequestrin 1 known as Calmitin is located in the terminal cisternae luminal spaces of the SR of fast skeletal muscle cells. Calsequestrin 2 is present in the terminal cisternae luminal spaces of the SR in both cardiac and slow skeletal muscle cells. In addition, calsequestrin regulates the ryanodine receptor signalling (RyR) through Triadin and Junctin.

## REFERENCES

1. Barker, P.A., Gilchrist, J.S. and Belcastro, A.N. 1988. An improved method for the isolation of rat cardiac sarcoplasmic reticulum. *Mol. Cell. Biochem.* 84: 87-95.
2. Gunji, K., Kubota, S., Stolarski, C., Wengrowicz, S., Kennerdell, J.S. and Wall, J.R. 1999. A 63 kDa skeletal muscle protein associated with eye muscle inflammation in Graves' disease is identified as the calcium binding protein calsequestrin. *Autoimmunity* 29: 1-9.
3. Shutova, A.N., Storey, K.B., Lopina, O.D. and Rubtsov, A.M. 1999. Comparative characteristics of sarcoplasmic reticulum preparations from skeletal muscles of the ground squirrel *Spermophilus undulatus*, rats, and rabbits. *Biochemistry* 64: 1250-1257.
4. Cho, J.H., Oh, Y.S., Park, K.W., Yu, J., Choi, K.Y., Shin, J.Y., Kim, D.H., Park, W.J., Hamada, T., Kagawa, H., Maryon, E.B., Bandyopadhyay, J. and Ahn, J. 2000. Calsequestrin, a calcium sequestering protein localized at the sarcoplasmic reticulum, is not essential for body-wall muscle function in *Caenorhabditis elegans*. *J. Cell Sci.* 113: 3947-3958.
5. Nori, A., Furlan, S., Patiri, F., Cantini, M. and Volpe, P. 2000. Site-directed mutagenesis and deletion of three phosphorylation sites of calsequestrin of skeletal muscle sarcoplasmic reticulum. Effects on intracellular targeting. *Exp. Cell Res.* 260: 40-49.
6. Shin, D.W., Ma, J. and Kim, D.H. 2000. The ASP-rich region at the carboxyl-terminus of calsequestrin binds to Ca<sup>2+</sup> and interacts with triadin. *FEBS Lett.* 486: 178-182.
7. Nori, A., Valle, G., Massimino, M.L. and Volpe, P. 2001. Targeting of calsequestrin to the sarcoplasmic reticulum of skeletal muscle upon deletion of its glycosylation site. *Exp. Cell Res.* 265: 104-113.

## CHROMOSOMAL LOCATION

Genetic locus: CASQ2 (human) mapping to 1p13.1.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## RESEARCH USE

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

## PRODUCT

calsequestrin 2 (h): 293T Lysate represents a lysate of human calsequestrin 2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

calsequestrin 2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive calsequestrin 2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

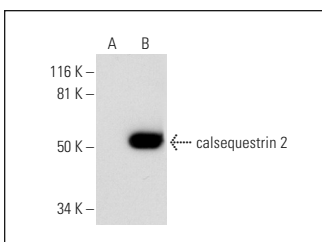
calsequestrin 2 (E-12): sc-390999 is recommended as a positive control antibody for Western Blot analysis of enhanced human calsequestrin 2 expression in calsequestrin 2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## 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 Luminal Reagent: sc-2048.

## DATA



calsequestrin 2 (E-12): sc-390999. Western blot analysis of calsequestrin 2 expression in non-transfected: sc-117752 (A) and human calsequestrin 2 transfected: sc-172435 (B) 293T whole cell lysates.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.