



SLN (E-15): sc-46260

BACKGROUND

Sarcolipin (SLN) is a 31 amino acid integral membrane protein belonging to the sarcolipin family. The gene encoding for the protein maps to chromosome 11q22-q23. SLN, localizing to the sarcoplasmic reticulum, regulates Ca-ATPase activity in skeletal muscle. It associates with calcium ATPase SERCA1 (Sarco(endo)plasmic reticulum Ca²⁺-ATPases). In muscle tissue, SERCAs are regulated by sarcolipin and another membrane protein, phospholamban (PLN). SLN is expressed in high levels in fast-twitch muscle, which has high expression of SERCA1a, and in lower levels in cardiac muscle. In rats, however, expression of SLN is higher in cardiac muscle than in fast-twitch muscle.

REFERENCES

- Odermatt, A., et al. 1997. Characterization of the gene encoding human sarcolipin (SLN), a proteolipid associated with SERCA1: absence of structural mutations in five patients with Brody disease. *Genomics* 45: 541-553
- Odermatt, A., et al. 1998. Sarcolipin regulates the activity of SERCA1, the fast-twitch skeletal muscle sarcoplasmic reticulum Ca²⁺-ATPase. *J. Biol. Chem.* 273: 12360-12369
- Asahi, M., et al. 2002. Sarcolipin inhibits polymerization of phospholamban to induce superinhibition of sarco(endo)plasmic reticulum Ca²⁺-ATPases (SERCAs). *J. Biol. Chem.* 277: 26725-26728.
- Mascioni, A., et al. 2002. Structure and orientation of sarcolipin in lipid environments. *Biochemistry* 41: 475-482.
- Asahi, M., et al. 2003. Sarcolipin regulates sarco(endo)plasmic reticulum Ca²⁺-ATPase (SERCA) by binding to transmembrane helices alone or in association with phospholamban. *Proc. Natl. Acad. Sci. USA* 100: 5040-5045.
- Babu, G.J., et al. 2005. Overexpression of sarcolipin decreases myocyte contractility and calcium transient. *Cardiovasc. Res.* 65: 177-186

CHROMOSOMAL LOCATION

Genetic locus: SLN (human) mapping to 11q22-q23; Sln (mouse) mapping to 9 C.

SOURCE

SLN (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of SLN of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46260 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

SLN (E-15) is recommended for detection of sarcolipin (SLN) of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 SLN siRNA (m): sc-45594.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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