

Calsarcin-1/Myozenin-2 Antibodies

Cat. # CALS11-S	Rabbit Anti-Mouse Calsarcin-1 antiserum #1	SIZE: 100 ul
Cat. # CALS11-A	Rabbit Anti-Mouse Calsarcin-1 IgG #1 (aff pure)	SIZE: 100 ug
Cat. # CALS11-P	Mouse Calsarcin-1 Control/blocking peptide	SIZE: 100 ug

Calcineurin is a Ca/calmodulin-dependent serine-threonine phosphatase that plays an important role in transducing Ca-dependent signals in a variety of cell types. Calcineurin has also been shown to have a profound influence on the properties of striated muscle cells, including cardiac muscle. A novel family of striated muscle-specific calcineurin-interacting proteins called **calsarcins** or **Myozenins** has been identified that interact and colocalizes with the Z-disc protein alpha-actinin. Two isoform of calsarcins, **Calsarcin-1** and **Calsarcin-2**, with specific expression pattern have been identified in human, rat and mouse. Calsarcins tether calcineurin to the sarcomere of cardiac and skeletal muscle. Besides calcineurin and α -actinin, calsarcins interact with other Z-disc proteins α -filamin, telethonin and TCAP. Because calcineurin responds to sustained, low amplitude calcium signals, calsarcins may serve to localize calcineurin in the vicinity of unique intracellular pool, where it can interact with specific upstream activators or downstream substrates. Therefore, calsarcins may play an important role in modulating the function and substrate specificity of calcineurin in striated muscle cells.

Calsarcin-1 (CALS-1), also known as **Myozenin-2** or MYOZ2, is a ~32 kDa protein (human/mouse 264-aa, ~88% identity). Amino acids 217-240 of calsarcin-1 are necessary for its interaction with α -actinin-2 in the Z-disc of sarcomeric muscle fibers. It is expressed, throughout the development-cycle, in all striated muscle tissues. However, CALS-1 expression is localized in **slow-twitch** fibers (soleus and plantaris), which depends on chronic motor neuron stimulation that results in sustained cellular calcium.

Source of Antigen and Antibodies

Antigen	A 17-aa peptide sequence (designated CALS11-P or control peptide) Epitope location ~ C-terminus of mouse Calsarcins-1 (1)
Ab Host/type	Rabbit, polyclonal unpurified antibodies (cat# CALS11-S), and Aff pure IgG1 (cat # CALS11-A) purified over the antigen column
2-ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available)
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: not tested. We recommend the use of affinity pure antibody at 2-20 ug/ml.

Specificity & Cross-reactivity

The CALS11-P peptide is 83% conserved in human and rat calsarcins-1 or Myozenin-2. No significant sequence homology of CALS11-P is seen with calsarcins-2 or other proteins. Antibody reactivity in various species is not known. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at:the web site).

General References: (1) Frey N et al (2000) PNAS 97, 14632-14637; Ahmad F et al (2000) Genomics 70, 347-353; Faulkner G et al (2000) JBC 275, 41234-41242; Takada F et al (2001) PNAS 98, 1595-1600;

**This product is for In vitro research use only.*

Related materials available from ADI

Antibodies: CaT-1/2; Calbindins, S100, Parvalbumin, Calretinin, Calsarcins

CALS11-S-A-P 71216S