

Product Specification Sheet

Calsarcin-2/Myozenin-1 Antibodies

Cat. # CALS21-S	Rabbit Anti-Human Calsarcin-2 antiserum #1	SIZE: 100 ul
Cat. # CALS21-A	Rabbit Anti- Human Calsarcin-2 IgG #1 (aff pure)	SIZE: 100 ug
Cat. # CALS21-P	Human Calsarcin-2 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.

Calsarcin-2/CALS-2 (variously termed **Myozenin-1** and **FATZ**) ~34 kDa, human 299-aa, mouse 296-aa, ~30% identity with CALS-1) is a globular protein with central glycine-rich domain flanked by α -helical regions. CALS-2 is expressed transiently in heart during early embryogenesis and later becomes restricted to skeletal muscle with weaker signals in adult prostate, placenta and pancreas. In contrast to CALS-1, the expression of Calsarcin-2 is restricted to **fast-twitch** skeletal fiber (Gastrocnemius), which receives intermittent, high frequency stimulation and exhibit lower intracellular calcium concentration. Calsarcin-2 interacts with other Z-disc proteins γ -Filamin, ACTN-2, ACTN-3 and TCAP and possibly modulates both γ -filamin and α -actinin dimerization. Based on its binding partners, Calsarcin-2 has been suggested to play a central role in myofibrillogenesis and as a candidate for limb-girdle muscular dystrophy and other related neuromuscular disorders.

Source of Antigen and Antibodies

Antigen	17-aa peptide from mouse/human Calsarcins-2 (1); Designation (#CALS21-P, control/blocking peptide) conjugated to KLH. Epitope location ~ N-terminus
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#CALS21-S) and IgG, purified over antigen-agarose (Cat # CALS21-A)
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 CALS21-P peptide is 100% conserved in mouse, rat, human and 94% in bovine calsarcins-2 or Myozenin-1. No significant sequence homology of CALS21-P is seen with calsarcins-1 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 (2000) PNAS 97, 14632-14637; Ahmad F (2000) Genomics 70, 347-353; Faulkner G (2000) JBC 275, 41234-41242; Takada F (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

CALS21-S-A-P 71216S