

Calcineurin A (CnA) Antibodies

Cat. # CALNA12-A	Rabbit Anti-Human Calcineurin A IgG #2, Aff pure	SIZE: 100 ug
Cat. # CALNA12-P	Human Calcineurin A control/blocking peptide	SIZE: 100 ug
Cat. # CALNA12-C	Purified recombinant Human Calcineurin A protein WB +ve control	SIZE: 100 ul

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. **Calcineurin** (also known as CALNA or CALNA1, Calcineurin-alpha, Protein phosphatase 2B or PP2B) is the Ca+/calmodulin-regulated protein phosphatase, first detected in skeletal muscle and brain, has been found in from yeast to mammals. It is a heterodimers of two subunits: **Calcineurin B/CnB**, the 19-kDa Ca+-binding and regulatory subunit, and **Calcineurin A/CnA**, ~61-kDa catalytic subunit that is highly homologous with PP1 and PP2A. Multiple catalytic subunits of calcineurin are derived from at least 2 structural genes, type 1 (calcineurin A-alpha) and type 2 (calcineurin A-beta, CALNA2), each of which can produce additional alternatively spliced transcripts. CnB belongs to the family of EF-hand Ca-binding proteins. Both CnB and calmodulin are important for the activation of the phosphatase activity of calcineurin. Calcineurin controls the production of many cytokines including IL-2, TNF-alpha in the T-cell activation pathway. Calcineurin mediated dephosphorylation of the nuclear factor of activated T-cells (NF-AT) is required for NF-AT activation, nuclear translocation, and subsequent gene expression in T-cells. The immunosuppressive drugs, such as FK506, inhibit activation of NF-AT by calcineurin.

Source of Antigen and Antibodies

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Antigen	A 12-aa peptide (designated CALNA12-P, control peptide) Epitope location ~ N-terminus of human calcineurin A subunit (1)
Ab Host/type	Rabbit, polyclonal Aff pure IgG1 (cat # CALNA12-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

Human calcineurin A-alpha (~60 kDa) and calcineurin B (~19 kDa) were co-expressed with yeast myristoyl-CoA:protein N-myristoyltransferase and purified to >95%. Recombinant and purified Calcineurin is N-myristoylated on the CnB, as in the natural protein, resulting into biologically active protein. For **western blot +ve control (Cat # CALNA12-C)**, calcineurin is supplied in SDS-PAGE sample buffer (reduced). This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. It is supplied in 100 ul/vial. For WB, heat once and load 10 ul/lane and visualize with appropriate antibodies. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **CALNA12-C** solution prior to heating and loading on gels. This preparation is intended for qualitative purpose and not to serve as standard of known concentration. Store frozen in suitable aliquots. Do not freeze, thaw, or heat repeatedly.

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Form & Storage of Antibodies/Peptide Control

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in Buffer: 100 mM Tris, pH 7.5, 0.2% BSA, 0.05% azide
Reconstitute powder in PBS at 1 mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS, pH 7.5 and 0.05% sodium azide
Reconstitute powder in PBS at 1 mg/ml

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

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

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting (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 CALNA12-P peptide is 100% conserved in human, bovine, pig, rat, and mouse calcineurin A subunit. The antibodies do not recognize the B-subunit of calcineurin. Antibody reactivity in various other 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) Muramatsu T et al (1993) BBA 1178, 117; Kissinger CR et al (1995) Nature 378, 641; Giri; P et al (1991) BBRC 181, 252; Guerinin D et al (1989) PNAS 86, 9183; Maleeret G et al (2001) Cell 104, 675; Rothermel BA et al (2001) PNAS 98, 3328;

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

Related materials available from ADI

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

CALNA12-A-P-C 71216S