Product Specification Sheet

Mouse Calcium channel voltage dependent L type (Cacnalc) Antibodies

□ Cat. # AB-23228- A	Rabbit Anti-Mouse Cacnalc IgG (aff pure)	**SIZE**: 100 ug
□ Cat. # AB-23228- P	Human Mouse Cacnalc Control/blocking peptide	**SIZE**: 100 ug

Voltage-dependent calcium channels (VDCC) are a group of voltage-gated ion channels found in excitable cells (e.g., muscle, glial cells, neurons, etc.) with a permeability to the ion Ca2+. These channels are slightly permeable to sodium ions, so they are also called Ca2+-Na+ channels, but their permeability to calcium is about 1000-fold greater than to sodium under normal physiological conditions.At physiologic or resting membrane potential, VDCCs are normally closed. They are activated (i.e., opened) at depolarized membrane potentials and this is the source of the "voltage-dependent" epithet. Activation of particular VDCCs allows Ca2+ entry into the cell, which, depending on the cell type, results in muscular contraction, excitation of neurons, up-regulation of gene expression, or release of hormones or neurotransmitters. Voltage-dependent calcium channels are formed as a complex of several different subunits: α1, α2δ, β1-4, and γ. The α1 subunit forms the ion conducting pore while the associated subunits have several functions including modulation of gating. The L-type calcium channel is a type of voltage-dependent calcium channel. Like the others of this class, the α1 subunit is the one that determines most of the channel's properties. This channel lets L-type calcium current go through it. This current can be seen in Phase 2 of action potential of Atrial, Ventricular and Purkinje fibers. This is a slow inward current that is opposed by K current going outside. Opening of the L-type calcium channel causes influx of extracellular Ca2+, which then binds calmodulin. The activated calmodulin molecule activates myosin light-chain kinase (MLCK), which phosphorylates the myosin in thick filaments. Phosphorylated myosin is able to form crossbridges with actin thin filaments, and the smooth muscle fiber (i.e., cell) contracts via the sliding filament mechanism.

Protein Function Has no effect on basal glucose uptake but enhances insulin-stimulated glucose uptake in adipocytes. Increases AKT phosphorylation in the absence and presence of insulin. May play a role in the defense system against microorganisms.
Protein name Cacna1c protein
Gene name Name Cacna1c
Subcellular location Membrane; Multipass membrane protein
Similarity Belongs to the calcium channel alpha-1 subunit (TC 1.A.1.11) family

Source of Antigen and Antibodies

Antigen	14-aa peptide of Mouse lactoferrin receptor; (protein accession #B7ZN95). (**designated AB-23228-P or control peptide**) conjugated to KLH;Epitope location ~ C-terminus
Ab Host/type	Rabbit, polyclonal Aff pure IgG1 (**cat # AB-23228-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

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

Mouse AB-23228-P peptide sequence is 100% conserved in rat. Antibody reactivity has not been established between species. The AB-23228-P control peptides, 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.

General References: Suzuki Y.A., (2001)Biochemistry 40:15771; Lee J.K., (2001)Glycobiology 11:65; Tsuji S., (2001)J. Biol. Chem. 276:23456; Chang B.Y., (2004) Comp. Biochem. Physiol. 137A:115; Yang R.-Z., (2006) Am. J. Physiol. 290:E1253

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

Related materials available from ADI

Antibodies:,
ReadyBlot **Kidney Protein Explorer**-Study distribution of protein in various regions of the mouse/rat kidney using the pre-made protein blots; Western blot recycling kit-Use the same blot for WNK1-4.

AB-23228-A-P 120214SM

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