ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Voltage-dependent L-type calcium channel subunit alpha-1C (CACNA1C) Antibodies

□ Cat. # AB-23015-A	Rabbit Anti-Rat CACNA1C IgG (aff pure)	**SIZE**: 100 ug
□ Cat. # AB-23015-P	Rat CACNA1C Control/blocking peptide	**SIZE**: 100 ug

Protein function Voltage-sensitive calcium channels (VSCC) mediate the entry of calcium ions into excitable cells and are also involved in a variety of calcium-dependent processes, including muscle contraction, hormone or neurotransmitter release, gene expression, cell motility, cell division and cell death. The isoform alpha-1Cgives rise to L-type calcium currents. Long-lasting (L-type) calcium channels belong to the 'high-voltage activated' (HVA) group. They are blocked by dihydropyridines (DHP), phenylalkylamines, benzothiazepines, and by omega-agatoxin-IIIA (omega-Aga-IIIA). They are however insensitive to omega-conotoxin-GVIA (omega-CTx-GVIA) and omega-agatoxin-IVA (omega-Aga-IVA). Calcium channels containing the alpha-1C subunit play an important role in excitation-contraction coupling in the heart. Binding of calmodulin or CABP1 at the same regulatory sites results in an opposit effects on the channel function.
Protein name Voltage-dependent L-type calcium channel subunit alpha-1C, Calcium channel, L type, alpha-1 polypeptide, isoform 1, cardiac muscle, Rat brain class C, Voltage-gated calcium channel subunit alpha Cav1.2
Gene name CACNA1C
Synonymns Cach2, Cacn2, Cacnl1a1, Cchl1a1
Subcellular location Membrane; Multi-pass membrane protein. Cell membrane
Sequence similarities Belongs to the calcium channel alpha-1 subunit (TC 1.A.1.11) family. CACNA1C subfamily.

Source of Antigen and Antibodies

Antigen	14-aa peptides of Rat Voltage-dependent L-type calcium channel subunit alpha-1C (CACNA1C); (protein accession # P36222)**.** (**designated AB-23015-P or control peptide**) conjugated to KLH; Epitope location; C-terminal; cytoplasmic
Ab Host/type	Rabbit, polyclonal Aff pure IgG1 (**cat # AB-23015-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

Rat AB-23015-P peptide sequences is 93% conserved in mouse. Antibody reactivity has not been established between species. Rat AB-23015-P is present in isoforms 1-5 of the protein. The AB-23015-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 Koch W.J., (1990). J. Biol. Chem. 265:17786-17791. Snutch T.P., (1991). Neuron 7:45-57. Snutch T.P., (1990). Proc. Natl. Acad. Sci. U.S.A. 87:3391-3395. Diebold R.J., (1992). Proc. Natl. Acad. Sci. U.S.A. 89:1497-1501. Tezuka N., (1995). Am. J. Physiol. 269:C1008-C1017. Barry E.L.R., (1995). Proc. Natl. Acad. Sci. U.S.A. 92:10914-10918. Hell J.W., (1993). J. Biol. Chem. 268:19451-19457. Zhou H., (2004). J. Neurosci. 24:4698-4708. Chen Y.H., (2004). Nature 429:675-680.

**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 Rat/rat kidney using the pre-made protein blots; Western blot recycling kit-Use the same blot for WNK1-4.

AB-23015-A-P 140514VP

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