

Rabbit CACNA1C Polyclonal Antibody | anti-CACNA1C antibody

Phospho-CACNA1C (Ser1981) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA329863	Rabbit	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%)	ELISA, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

CACNA1C; Polyclonal Antibody; Phospho-CACNA1C (Ser1981) Antibody; alpha-1 polypeptide; cardiac muscle; isoform 1; L type; CAC1C_HUMAN; CACH 2; CACH2; CACN 2; CACN2; CACNL1A1; Calcium channel; Calcium channel cardiac dihydropyridine sensitive alpha 1 subunit; Calcium channel L type alpha 1 polypeptide isoform 1 cardiac muscle; Calcium channel voltage dependent L type alpha 1C subunit; Cav1.2; CCHL1A1; DHPR alpha 1; DHPR alpha 1 subunit; LQT8; TS; Voltage dependent L type calcium channel alpha 1C subunit; Voltage dependent L type calcium channel subunit alpha 1C; Voltage gated calcium channel alpha subunit Cav1.2; Voltage gated calcium channel subunit alpha Cav1.2; Voltage gated L type calcium channel Cav1.2 alpha 1 subunit; splice variant 10*; Voltage-dependent L-type calcium channel subunit alpha-1C; Voltage-gated calcium channel subunit alpha Cav1.2; anti-CACNA1C antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-CACNA1C (Ser1981) Antibody detects endogenous levels of CACNA1C only when phosphorylated at Ser1981. Tissue Specificity: Detected throughout the brain, including hippocampus, cerebellum and amygdala, throughout the heart and vascular system, including ductus arteriosus, in urinary bladder, and in retina and sclera in the eye. Expressed in brain, heart, jejunum, ovary, pancreatic beta-cells and vascular smooth muscle. Overall expression is reduced in atherosclerotic vascular smooth muscle.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-CACNA1C antibody	ELISA (Peptide ELISA), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human CACNA1C around the phosphorylation site of Ser1981.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Phosphorylation by PKA activates the channel. Elevated levels of blood glucose lead to increased phosphorylation by PKA.

Subunit Structure	Component of a calcium channel complex consisting of a pore-forming alpha subunit (CACNA1C) and ancillary beta, gamma and delta subunits. The channel complex contains alpha, beta, gamma and delta subunits in a 1:1:1:1 ratio, i.e. it contains only one of each type of subunit (Probable). CACNA1C channel activity is modulated by ancillary subunits, such as CACNB1, CACNB2, CACNB3, CACNA2D1 and CACNA2D4. Interacts with the gamma subunits CACNG4, CACNG6, CACNG7 and CACNG8 (By similarity). Interacts with CACNB1 (By similarity). Interacts with CACNB2. Identified in a complex with CACNA2D4 and CACNB3. Interacts with CACNB3. Interacts with CACNA2D1. Interacts with CACNA2D4. Interacts with CALM1. Interacts (via the N-terminus and the C-terminal C and IQ motifs) with CABP1; this inhibits Ca (2+)-dependent channel inactivation. The binding via the C motif is calcium independent whereas the binding via IQ requires the presence of calcium and is mutually exclusive with calmodulin binding. The binding to the cytoplasmic N-terminal domain is calcium independent but is essential for the channel modulation. Interacts (via C-terminal CDB motif) with CABP5; in a calcium-dependent manner (By similarity). Interacts with CIB1; the interaction increases upon cardiomyocytes hypertrophy (By similarity). Interacts with STAC2 and STAC3; this inhibits channel inactivation. (Microbial infection) Interacts with influenzavirus H1 hemagglutinin.
Similarity	Each of the four internal repeats contains five hydrophobic transmembrane segments (S1, S2, S3, S5, S6) and one positively charged transmembrane segment (S4). S4 segments probably represent the voltage-sensor and are characterized by a series of positively charged amino acids at every third position. Binding of intracellular calcium through the EF-hand motif inhibits the opening of the channel. Belongs to the calcium channel alpha-1 subunit (TC 1.A.1.11) family. CACNA1C subfamily.
Subcellular Location	Cell membrane>Multi-pass membrane protein. Cell membrane>Sarcolemma>Multi-pass membrane protein. Perikaryon. Cell junction>Synapse>Postsynaptic density membrane. Cell projection>Dendrite. Cell membrane>Sarcolemma>T-tubule. Note: Colocalizes with ryanodine receptors in distinct clusters at the junctional membrane, where the sarcolemma and the sarcoplasmic reticulum are in close contact. The interaction between RRAD and CACNB2 promotes the expression of CACNA1C at the cell membrane.
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IHC (Immunohistochemistry)

At 1/100 staining Human colorectal cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemisry)

At 1/100 staining Human lung cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of CACNA1C (Phospho-Ser1981) using EGF treated A431 whole cell lysates. -/+ means absence or presence of N peptide¼non-phospho peptide) and P peptide(phospho peptide).



WB (Western Blot)

Western blot analysis of extracts from mouse brain/rat brain, using Phospho-CACNA1C (Ser1981) Antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-CACNA1C antibody	Pore-forming, alpha-1C subunit of the voltage-gated calcium channel that gives rise to L-type calcium currents. Mediates influx of calcium ions into the cytoplasm, and thereby triggers calcium release from the sarcoplasm (By similarity). Plays an important role in excitation-contraction coupling in the heart. Required for normal heart development and normal regulation of heart rhythm. Required for normal contraction of smooth muscle cells in blood vessels and in the intestine. Essential for normal blood pressure regulation via its role in the contraction of arterial smooth muscle cells. Long-lasting (L-type) calcium channels belong to the 'high-voltage activated' (HVA) group (Probable). (Microbial infection) Acts as a receptor for Influenzavirus. May play a critical role in allowing virus entry when sialylated and expressed on lung tissues.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	951207
NCBI GeneID	775
UniProt Accession #	Q13936; Q13917; Q13918; Q13919; Q13920; Q13921; Q13922; Q13923; Q13924; Q13925; B2RUT3; E9PDJ0
Molecular Weight	252,507 Da
NCBI Official Full Name	voltage-gated calcium channel, partial
NCBI Official Synonym Full Names	calcium voltage-gated channel subunit alpha1 C
NCBI Official Symbol	CACNA1C
NCBI Official Synonym Symbols	TS; LQT8; CACH2; CACN2; CaV1.2; CCHL1A1; CACNL1A1
NCBI Protein Information	voltage-dependent L-type calcium channel subunit alpha-1C
UniProt Protein Name	Voltage-dependent L-type calcium channel subunit alpha-1C
UniProt Gene Name	CACNA1C
UniProt Synonym Gene Names	CACH2; CACN2; CACNL1A1; CCHL1A1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
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