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Rabbit Anti-CACNA1C antibody

SL2806R

Product Name:	CACNA1C
Chinese Name:	L-型电压依赖型钙通道α抗体
Alias:	alpha-1 polypeptide; cardiac muscle; isoform 1; L type; CAC1C_HUMAN; CACH 2; DHPR alpha 1; VDCC-L alpha; CACH2; CACN 2; CACN2; Calcium channel; Calcium channel cardic 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 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.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Dog,Pig,Cow,Horse,Rabbit,
Applications:	ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800IF=1:100-500（Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	249kDa
Cellular localization:	The cell membrane
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human DHPR alpha 1:1001-1100/2221<Extracellular>
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year

	when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	This gene encodes an alpha-1 subunit of a voltage-dependent calcium channel. Calcium channels mediate the influx of calcium ions into the cell upon membrane polarization. The alpha-1 subunit consists of 24 transmembrane segments and forms the pore through which ions pass into the cell. The calcium channel consists of a complex of alpha-1, alpha-2/delta, beta, and gamma subunits in a 1:1:1:1 ratio. There are multiple isoforms of each of these proteins, either encoded by different genes or the result of alternative splicing of transcripts. The protein encoded by this gene binds to and is inhibited by dihydropyridine. Alternative splicing results in many transcript variants encoding different proteins. [provided by RefSeq] **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-1C gives 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. The various isoforms display marked differences in the sensitivity to DHP compounds. Binding of calmodulin or CABP1 at the same regulatory sites results in an opposit effects on the channel function. **Subunit:** Voltage-dependent calcium channels are multisubunit complexes, consisting of alpha-1, alpha-2, beta and delta subunits in a 1:1:1:1 ratio. The channel activity is directed by the pore-forming and voltage-sensitive alpha-1 subunit. In many cases, this subunit is sufficient to generate voltage-sensitive calcium channel activity. The auxiliary subunits beta and alpha-2/delta linked by a disulfide bridge regulate the channel activity. Interacts with CACNA2D4. Interacts (via the N-terminus and the C-terminal C and IQ motifs) with CABP1. 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. **Subcellular Location:** Membrane; Multi-pass membrane protein. Cell membrane. Note=The interaction between RRAD and CACNB2 regulates its trafficking to the cell membrane. **Tissue Specificity:**

Expressed in brain, heart, jejunum, ovary, pancreatic beta-cells and vascular smooth muscle. Overall expression is reduced in atherosclerotic vascular smooth muscle.

Post-translational modifications:
Phosphorylation by PKA activates the channel.

DISEASE:
Defects in CACNA1C are the cause of Timothy syndrome (TS) [MIM:601005]. TS is a disorder characterized by multiorgan dysfunction including lethal arrhythmias, webbing of fingers and toes, congenital heart disease, immune deficiency, intermittent hypoglycemia, cognitive abnormalities and autism.
Defects in CACNA1C are the cause of Brugada syndrome type 3 (BRGDA3) [MIM:611875]. A heart disease characterized by the association of Brugada syndrome with shortened QT intervals. Brugada syndrome is a tachyarrhythmia characterized by right bundle branch block and ST segment elevation on an electrocardiogram (ECG). It can cause the ventricles to beat so fast that the blood is prevented from circulating efficiently in the body. When this situation occurs (called ventricular fibrillation), the individual will faint and may die in a few minutes if the heart is not reset.

Similarity:
Belongs to the calcium channel alpha-1 subunit (TC 1.A.1.11) family. CACNA1C subfamily.

SWISS:
Q13936

Gene ID:
775

Database links:

Entrez Gene: 775Human

Entrez Gene: 12288Mouse

Entrez Gene: 100144322Rabbit

Entrez Gene: 24239Rat

Omim: 114205Human

SwissProt: Q13936Human

SwissProt: Q01815Mouse

SwissProt: P15381Rabbit

SwissProt: P22002Rat

Unigene: 118262Human

	Unigene: 436656Mouse Unigene: 9827Rat **Important Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. L型钙通道广泛分布于心肌The cell membrane上，尤其T管上含量最为丰富，是心肌The cell membrane的主要钙通道类型。L型钙通道的开闭主要受膜电位变化的影响，是电压依赖性钙通道，激活电位-40～-30mV，失活电位-20mV。L型钙通道开放后持续的时间长较长，激活占时20～30ms，失活更慢（100～300ms），又称为慢钙通道。