CACNA1C (Phospho Ser1981) Rabbit pAb

CatalogNo: YP1717

Key Features

Host Species	Reactivity	Applications
• Rabbit	• Human,Mouse,Rat	• WB

MW	Isotype
• 244kD (Calculated)	• IgG

Storage

Storage*	-15°C to -25°C/1 year(Do not lower than -25°C)
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

WB 1:500-2000

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	Synthesized peptide derived from human CACNA1C (Phospho-Ser1981)
Specificity	This antibody detects endogenous levels of CACNA1C (Phospho-Ser1981) at Human, Mouse,Rat.The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):RAsFH

Target Information

Gene name CACNA1C CACH2 CACN2 CACNL1A1 CCHL1A1

Protein Name CACNA1C (Phospho-Ser1981)

Organism	Gene ID	UniProt ID
Human	775;	Q13936;
Mouse	12288;	Q01815;
Rat	24239;	P22002;

Cellular Localization 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 . 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. .

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 (PubMed:15454078). Expressed in brain, heart, jejunum, ovary, pancreatic beta-cells and vascular smooth muscle. Overall expression is reduced in atherosclerotic vascular smooth muscle.

Function	Alternative products:Additional isoforms seem to exist. Exons 8A, 21, 22, 31, 32, 33, 40B, 43A, 41A and 45 are alternatively spliced in a variety of combinations. Experimental confirmation may be lacking for some isoforms,Disease:Defects in CACNA1C are the cause of Brugada syndrome type 3 (BRS3) [MIM:611875]. BRS3 is 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.,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.,Domain:Binding of intracellular calcium through the EF-hand motif inhibits the opening of the channel.,Domain: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.,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.,PTM:Phosphorylation by PKA activates the channel.,similarity:Belongs to the calcium channel alpha-1 subunit (TC 1.A.1.11) family.,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.,tissue specificity:Expressed in brain, heart, jejunum, ovary, pancreatic beta-cells and vascular smooth muscle. Overall expression is reduced in atherosclerotic vascular smooth muscle.,

Validation Data

Contact information

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