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Goat Anti-CACNA1C Antibody

Peptide-affinity purified goat antibody
Catalog # AF1175a

Specification

Goat Anti-CACNA1C Antibody - Product Information

Application	**WB**
Primary Accession	Q13936
Other Accession	NP_000710, 775
Reactivity	**Human**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**248977**

Goat Anti-CACNA1C Antibody - Additional Information

Gene ID 775

Other Names
Voltage-dependent L-type calcium channel subunit alpha-1C, Calcium channel, L type, alpha-1 polypeptide, isoform 1, cardiac muscle, Voltage-gated calcium channel subunit alpha Cav1.2, CACNA1C, CACH2, CACN2, CACNL1A1, CCHL1A1

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-CACNA1C Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-CACNA1C Antibody - Protein Information

Name CACNA1C

Synonyms CACH2, CACN2, CACNL1A1, CCHL1A1

Function
Pore-forming, alpha-1C subunit of the voltage-gated calcium channel that gives rise to L-type calcium currents (PubMed:11741969, PubMed:<a href="http://www.uniprot.org/citations/12176756"

target="_blank">12176756, PubMed:12181424, PubMed:15454078, PubMed:15863612, PubMed:16299511, PubMed:17071743, PubMed:17224476, PubMed:20953164, PubMed:23677916, PubMed:24728418, PubMed:26253506, PubMed:27218670, PubMed:29078335, PubMed:29742403, PubMed:30023270, PubMed:30172029, PubMed:34163037, PubMed:7737988, PubMed:8099908, PubMed:8392192, PubMed:9013606, PubMed:9087614, PubMed:9607315). 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 (PubMed:15454078, PubMed:15863612, PubMed:17224476, PubMed:24728418, PubMed:26253506). 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 (PubMed:28119464). Long-lasting (L-type) calcium channels belong to the 'high-voltage activated' (HVA) group (Probable).

Cellular Location

Cell membrane; Multi-pass membrane protein Cell membrane, sarcolemma {ECO:0000250|UniProtKB:P15381}; Multi-pass membrane protein. Perikaryon {ECO:0000250|UniProtKB:P22002}. Postsynaptic density membrane {ECO:0000250|UniProtKB:P22002}. Cell projection, dendrite {ECO:0000250|UniProtKB:P22002}. Cell membrane, sarcolemma, T-tubule {ECO:0000250|UniProtKB:Q01815}. 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. {ECO:0000250|UniProtKB:P15381}

Tissue Location

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.

Goat Anti-CACNA1C Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

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- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-CACNA1C Antibody - Images

Antibody (1µg/ml) staining of Human Heart lysate (35µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-CACNA1C Antibody - Background

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.

Goat Anti-CACNA1C Antibody - References

Genetic variation in CACNA1C affects brain circuitries related to mental illness. Bigos KL, et al. Arch Gen Psychiatry, 2010 Sep. PMID 20819988.
Mutations in the Cardiac L-Type Calcium Channel Associated with Inherited J Wave Syndromes and Sudden Cardiac Death. Burashnikov E, et al. Heart Rhythm, 2010 Sep 2. PMID 20817017.
Mood Disorder Susceptibility Gene CACNA1C Modifies Mood-Related Behaviors in Mice and Interacts with Sex to Influence Behavior in Mice and Diagnosis in Humans. Dao DT, et al. Biol Psychiatry, 2010 Aug 17. PMID 20723887.
Brain function in carriers of a genome-wide supported bipolar disorder variant. Erk S, et al. Arch Gen Psychiatry, 2010 Aug. PMID 20679588.
An approach based on a genome-wide association study reveals candidate loci for narcolepsy. Shimada M, et al. Hum Genet, 2010 Oct. PMID 20677014.