

Anti-CACNA1A Antibody
Catalog # ABO11600**Specification**

Anti-CACNA1A Antibody - Product Information

Application	WB
Primary Accession	O00555
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Voltage-dependent P/Q-type calcium channel subunit alpha-1A(CACNA1A) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-CACNA1A Antibody - Additional Information

Gene ID 773

Other Names

Voltage-dependent P/Q-type calcium channel subunit alpha-1A, Brain calcium channel I, BI, Calcium channel, L type, alpha-1 polypeptide isoform 4, Voltage-gated calcium channel subunit alpha Cav2.1, CACNA1A, CACH4, CACN3, CACNL1A4

Calculated MW

282365 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Rat, Human, Mouse

Subcellular Localization

Membrane; Multi-pass membrane protein.

Tissue Specificity

Brain specific; mainly found in cerebellum, cerebral cortex, thalamus and hypothalamus. Expressed in the small cell lung carcinoma cell line SCC-9. No expression in heart, kidney, liver or muscle. Purkinje cells contain predominantly P- type VSCC, the Q-type being a prominent calcium current in cerebellar granule cells. .

Protein Name

Voltage-dependent P/Q-type calcium channel subunit alpha-1A

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human CACNA1A(430-447aa KTDLLNPEEAEDQLADIA), identical to the related mouse and rat sequences.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the calcium channel alpha-1 subunit (TC 1.A.1.11) family. CACNA1A subfamily.

Anti-CACNA1A Antibody - Protein Information

Name CACNA1A ([HGNC:1388](#))

Synonyms CACH4, CACN3, CACNL1A4

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-1A gives rise to P and/or Q- type calcium currents. P/Q-type calcium channels belong to the 'high- voltage activated' (HVA) group and are specifically blocked by the spider omega-agatoxin-IVA (AC P54282) (By similarity). They are however insensitive to dihydropyridines (DHP).

Cellular Location

Cell membrane; Multi-pass membrane protein

Tissue Location

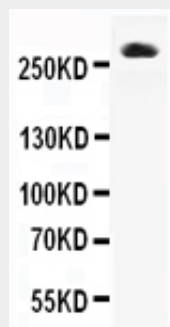
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Anti-CACNA1A Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-CACNA1A Antibody - Images



Anti-CACNA1A antibody, ABO11600, All Western blottingAll lanes: Anti-CACNA1A(ABO11600) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 40ugPredicted bind size: 282KDObserved bind size: 282KD

Anti-CACNA1A Antibody - Background

The CACNA1A gene, also known as CACNL1A4 or CaV2.1, encodes the transmembrane pore-forming subunit of the P/Q-type or CaV2.1 voltage-gated calcium channel(VGCC). Those channels not only mediate the entry of Ca(2+) ions into excitable cells but are also involved in a variety of Ca(2+)-dependent processes, including muscle contraction, hormone or neurotransmitter release, and gene expression. The channel activity is directed by the pore-forming alpha-1 subunit. CACNA1A is mapped to 19p13.2. This gene encodes the alpha-1A subunit, which is predominantly expressed in neuronal tissue. Mutations in this gene are associated with 2 neurologic disorders, familial hemiplegic migraine and episodic ataxia 2. This gene also exhibits polymorphic variation due to(CAG)n-repeats. CACNA1A has been shown to interact with CACNB4.