Product datasheet

Anti-CACNA1C antibody ab81980

Overview

Product name: Anti-CACNA1C antibody
Description: Goat polyclonal to CACNA1C
Host species: Goat
Tested applications: Suitable for: WB
Species reactivity: Reacts with: Human
Predicted to work with: Cynomolgus monkey
Immunogen: Synthetic peptide corresponding to Human CACNA1C aa 2201-2213 (C terminal).
Sequence: C-RARGRPSEELQD
Positive control: Human Heart and Skeletal Muscle lysates.

Properties

Form: Liquid
Storage instructions: Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid repeated freeze / thaw cycles.
Storage buffer: Preservative: 0.02% Sodium Azide
Constituents: 0.5% BSA, Tris buffered saline, pH 7.3
Purity: Immunogen affinity purified
Purification notes: ab81980 was purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.
Clonality: Polyclonal
Isotype: IgG

Applications

Our Abpromise guarantee covers the use of ab81980 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
### 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-III A (omega-Aga-III A). 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 opposite effects on the channel function.

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

### Involvement in disease
- Timothy syndrome
- Brugada syndrome 3

### Sequence similarities
Belongs to the calcium channel alpha-1 subunit (TC 1.A.1.11) family. CACNA1C subfamily.

### 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.

Binding of intracellular calcium through the EF-hand motif inhibits the opening of the channel.

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

### Cellular localization
Membrane. Cell membrane. The interaction between RRAD and CACNB2 regulates its trafficking to the cell membrane.

### Images
- **Western blot - Anti-CACNA1C antibody (ab81980)**

<table>
<thead>
<tr>
<th>250kDa</th>
<th>150kDa</th>
<th>100kDa</th>
<th>75kDa</th>
<th>50kDa</th>
<th>37kDa</th>
<th>25kDa</th>
<th>20kDa</th>
<th>15kDa</th>
</tr>
</thead>
</table>

Anti-CACNA1C antibody (ab81980) at 0.5 µg/ml + Human Heart lysate in RIPA buffer at 35 µg

- **Predicted band size:** 249 kDa
- **Observed band size:** 249 kDa

Primary incubation was 1 hour. Detected by chemiluminescence.
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