

α1A Calcium Channel. Rabbit Polyclonal Antibody , Rat

Ca_v2.1; P/Q-type Voltage-Gated Ca²⁺ Channel; Cacna1

BACKGROUND

Voltage-sensitive calcium channels (VSCCs) 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 blocked by the funnel toxin (ftx) and by the omega-agatoxin-IVA (omega-aga-IVA). They are however insensitive to dihydropyridines (dhp), and omega-conotoxin-GVIA (omega-ctx-GVIA). 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.

ORDERING INFORMATION

CATALOG NUMBER
X1506P

SIZE
100 µg

FORM
Unconjugated

HOST/CLONE
Rabbit

FORMULATION
Provided as solution in phosphate buffered saline with 0.08% sodium azide

CONCENTRATION
1 mg/ml

ISOTYPE
IgG

APPLICATIONS
Western Blot

IMMUNOGEN

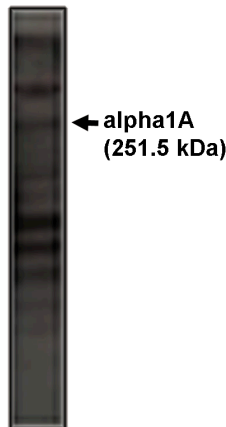
Synthetic peptide derived from the rat α1A calcium channel conjugated to KLH

SPECIES REACTIVITY

Rat

Legend:

Western blot analysis
α1A antibody on rat brain lysate.



For research use only. Not for use in human diagnostics or therapeutics.

POSITIVE CONTROL/TISSUE EXPRESSION

Rat brain lysate

COMMENTS

This antibody can be used for Western blotting (5-10 $\mu\text{g/ml}$). Optimal concentration should be evaluated by serial dilutions.

SHIP CONDITIONS

Ship at ambient temperature, freeze upon arrival

STORAGE CUSTOMER

Product should be stored at -20°C . Aliquot to avoid freeze/thaw cycles

STABILITY

Products are stable for one year from purchase when stored properly

REFERENCES

1. Starr, T.V.B et.al "Primary structure of a calcium channel that is highly expressed in the rat cerebellum" Proc. Natl. Acad. Sci. U.S.A. 88, 5621-5625 (1991)
2. Snutch, T.P et.al "Rat brain expresses a heterogeneous family of calcium channels" Proc. Natl. Acad. Sci. U.S.A. 87 (9), 3391-3395 (1990)
3. Yu, A.S et.al. "Molecular characterization and nephron distribution of a family of transcripts encoding the pore-forming subunit of Ca^{2+} channels in the kidney" Proc. Natl. Acad. Sci. U.S.A. 89 (21), 10494-10498 (1992)
4. Hansen PB, , et al."Vascular smooth muscle cells express the $\alpha(1A)$ subunit of a P-/Q-type voltage-dependent $\text{Ca}(2+)$ Channel, and It is functionally important in renal afferent arterioles." Circ Res (United States) 87(10) p896-902 (2000)
5. Stephens, G.I. et.al "The Cav2.1/ $\alpha(1A)$ (P/Q-type) voltage-dependent calcium channel mediates inhibitory neurotransmission onto mouse cerebellar Purkinje cells." Eur J Neurosci 13(10) 1902-12 (2001)

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