

L-type Ca⁺⁺ CP β4 (G-17): sc-54587

BACKGROUND

Voltage-dependent calcium channels are important for the release of neurotransmitters in neurons. L-type (long lasting current) voltage-dependent calcium channels are composed of four subunits: an α1 subunit, a β subunit, a γ subunit and an α2δ subunit. The β subunit is encoded by four genes, β1-β4, differing by about 20%. The various β subunits contribute to the diversity of calcium currents and are also involved in membrane trafficking of the α1 subunit. L-type Ca⁺⁺ CP β4 (calcium channel voltage-dependent subunit β4), also known as CACNB4, belongs to the calcium channel β subunit family. It is the most highly expressed subunit in the cerebellum. L-type Ca⁺⁺ CP β4 localizes to the cytoplasm and functions by regulating G protein inhibition, current amplitude and voltage dependence of activation and inactivation. A splice variant exists for L-type Ca⁺⁺ CP β4 which enhances cellular excitability. Mutations in the gene encoding L-type Ca⁺⁺ CP β4 are associated with idiopathic generalized epilepsy (IGE) and juvenile myoclonic epilepsy (JME).

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: CACNB4 (human) mapping to 2q23.3; Cacnb4 (mouse) mapping to 2 C1.1.

SOURCE

L-type Ca⁺⁺ CP β4 (G-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of L-type Ca⁺⁺ CP β4 of human origin.

PRODUCT

Each vial contains 200 μg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54587 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

L-type Ca⁺⁺ CP β4 (G-17) is recommended for detection of L-type Ca⁺⁺ CP β4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

L-type Ca⁺⁺ CP β4 (G-17) is also recommended for detection of L-type Ca⁺⁺ CP β4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for L-type Ca⁺⁺ CP β4 siRNA (h): sc-62048, L-type Ca⁺⁺ CP β4 siRNA (m): sc-62049, L-type Ca⁺⁺ CP β4 shRNA Plasmid (h): sc-62048-SH, L-type Ca⁺⁺ CP β4 shRNA Plasmid (m): sc-62049-SH, L-type Ca⁺⁺ CP β4 shRNA (h) Lentiviral Particles: sc-62048-V and L-type Ca⁺⁺ CP β4 shRNA (m) Lentiviral Particles: sc-62049-V.

Molecular Weight of L-type Ca⁺⁺ CP β4: 58 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.