

# L-type Ca<sup>++</sup> CP $\gamma$ 8 (E-13): sc-168396

## BACKGROUND

L-type (long lasting current) voltage-dependent calcium channels are composed of four subunits, designated  $\alpha$ 1,  $\beta$ ,  $\gamma$  and  $\alpha$ 2/ $\delta$ , all of which work together to mediate neurotransmitter release. L-type Ca<sup>++</sup> CP  $\gamma$ 8, also known as CACNG8 (calcium channel, voltage-dependent,  $\gamma$  subunit 8), is a 425 amino acid multi-pass membrane protein that exists as a component of the  $\gamma$  subunit and is thought to specifically stabilize calcium channels in a closed (inactive) state. The gene encoding L-type Ca<sup>++</sup> CP  $\gamma$ 8 maps to a cluster of  $\gamma$  subunit-encoding genes on human chromosome 19. Chromosome 19 consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes. Angelman syndrome, Prader-Willi syndrome, Tay-Sachs disease and Marfan syndrome are all associated with defects in chromosome 15-localized genes.

## REFERENCES

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- Black, J.L. 2003. The voltage-gated calcium channel  $\gamma$  subunits: a review of the literature. *J. Bioenerg. Biomembr.* 35: 649-660.
- Rouach, N., et al. 2005. TARP  $\gamma$ -8 controls hippocampal AMPA receptor number, distribution and synaptic plasticity. *Nat. Neurosci.* 8: 1525-1533.
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## CHROMOSOMAL LOCATION

Genetic locus: CACNG8 (human) mapping to 19q13.42; Cacng8 (mouse) mapping to 7 A1.

## SOURCE

L-type Ca<sup>++</sup> CP  $\gamma$ 8 (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of L-type Ca<sup>++</sup> CP  $\gamma$ 8 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-168396 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

L-type Ca<sup>++</sup> CP  $\gamma$ 8 (E-13) is recommended for detection of L-type Ca<sup>++</sup> CP  $\gamma$ 8 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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); non cross-reactive with other L-type Ca<sup>++</sup> CP  $\gamma$  family members.

L-type Ca<sup>++</sup> CP  $\gamma$ 8 (E-13) is also recommended for detection of L-type Ca<sup>++</sup> CP  $\gamma$ 8 in additional species, including porcine.

Suitable for use as control antibody for L-type Ca<sup>++</sup> CP  $\gamma$ 8 siRNA (h): sc-97586, L-type Ca<sup>++</sup> CP  $\gamma$ 8 siRNA (m): sc-146621, L-type Ca<sup>++</sup> CP  $\gamma$ 8 shRNA Plasmid (h): sc-97586-SH, L-type Ca<sup>++</sup> CP  $\gamma$ 8 shRNA Plasmid (m): sc-146621-SH, L-type Ca<sup>++</sup> CP  $\gamma$ 8 shRNA (h) Lentiviral Particles: sc-97586-V and L-type Ca<sup>++</sup> CP  $\gamma$ 8 shRNA (m) Lentiviral Particles: sc-146621-V.

Molecular Weight of L-type Ca<sup>++</sup> CP  $\gamma$ 8: 43 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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<sup>™</sup> Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

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Try **L-type Ca<sup>++</sup> CP  $\gamma$ 8 (A-8): sc-514421**, our highly recommended monoclonal alternative to L-type Ca<sup>++</sup> CP  $\gamma$ 8 (E-13).