

# L-type $\text{Ca}^{++}$ CP $\alpha 1\text{C}$ (N-17)-R: sc-16229-R

## BACKGROUND

Voltage-dependent  $\text{Ca}^{2+}$  channels mediate  $\text{Ca}^{2+}$  entry into excitable cells in response to membrane depolarization, and they are involved in a variety of  $\text{Ca}^{2+}$ -dependent processes, including muscle contraction, hormone or neurotransmitter release and gene expression. Calcium channels are highly diverse, multimeric complexes composed of an  $\alpha$ -1 subunit, an intracellular  $\beta$ -subunit, a disulfide linked  $\alpha$ -2/ $\delta$  subunit and a transmembrane  $\gamma$ -subunit.  $\text{Ca}^{2+}$  currents are characterized on the basis of their biophysical and pharmacologic properties and include L-, N-, T-, P-, Q-, and R- types. L-type  $\text{Ca}^{++}$  currents initiate muscle contraction, endocrine secretion and gene transcription, and can be regulated through second-messenger activated protein phosphorylation pathways. L-type calcium channels may form macromolecular signaling complexes with G protein-coupled receptors, thereby enhancing the selectivity of regulating specific targets.

## CHROMOSOMAL LOCATION

Genetic locus: CACNA1C (human) mapping to 12p13.33; Cacna1c (mouse) mapping to 6 F1.

## SOURCE

L-type  $\text{Ca}^{++}$  CP  $\alpha 1\text{C}$  (N-17)-R is a rabbit polyclonal antibody raised against a peptide mapping within an internal region of L-type  $\text{Ca}^{++}$  CP  $\alpha 1\text{C}$  of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-16229 P, (100  $\mu\text{g}$  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  $\text{Ca}^{++}$  CP  $\alpha 1\text{C}$  (N-17)-R is recommended for detection of L-type calcium channel  $\alpha 1\text{C}$  long and short forms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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  $\text{Ca}^{++}$  CP  $\alpha 1\text{C}$  (N-17)-R is also recommended for detection of L-type calcium channel  $\alpha 1\text{C}$  long and short forms in additional species, including canine and bovine.

Molecular Weight of L-type  $\text{Ca}^{++}$  CP  $\alpha 1\text{C}$  short form: 164 kDa.

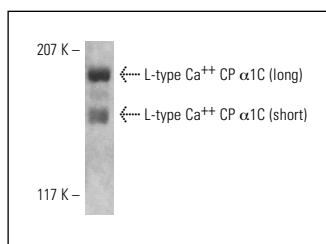
Molecular Weight of L-type  $\text{Ca}^{++}$  CP  $\alpha 1\text{C}$  long form: 190 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263.

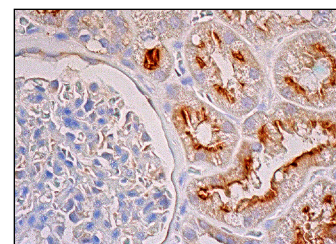
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



L-type  $\text{Ca}^{++}$  CP  $\alpha 1\text{C}$  (N-17): sc-16229. Western blot analysis of L-type  $\text{Ca}^{++}$  CP  $\alpha 1\text{C}$  expression in CCD-1064Sk whole cell lysate. Note long and short forms.



L-type  $\text{Ca}^{++}$  CP  $\alpha 1\text{C}$  (N-17)-R: sc-16229-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane staining of cells in tubules.

## SELECT PRODUCT CITATIONS

1. Burger, D.E., et al. 2009. Neuronal nitric oxide synthase protects against myocardial infarction-induced ventricular arrhythmia and mortality in mice. *Circulation* 120: 1345-1354.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Satisfaction  
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Try **L-type  $\text{Ca}^{++}$  CP  $\alpha 1\text{C}$  (D-6): sc-398433**, our highly recommended monoclonal alternative to L-type  $\text{Ca}^{++}$  CP  $\alpha 1\text{C}$  (N-17).