

# p-CaM I (Ser 81): sc-17019

## BACKGROUND

The level of intracellular calcium is tightly regulated in all eukaryotic cells. A modest increase in the calcium level can result in a myriad of physiological responses, most of which are mediated by calmodulin. Calmodulin (CaM), a 148 amino acid universal calcium sensor, directly modulates the activity of protein kinases and phosphatases, ion channels and nitric oxide synthetases. Approximately 15% of CaM in the cell is phosphorylated and this phosphorylation is mediated by casein kinase II on Thr 79, Ser 81, Ser 101 and Thr 117. Although CaM is constitutively phosphorylated, Insulin increases phosphate incorporation into serine, threonine and tyrosine residues in intact cells. Phosphocalmodulin (p-CaM) exhibits altered biological activity. For example, p-CaM reduces activation of the erythrocyte plasma membrane  $\text{Ca}^{2+}$  pump. This strongly suggests that phosphorylation of CaM is an important component of intracellular signaling.

## CHROMOSOMAL LOCATION

Genetic locus: CALM1 (human) mapping to 14q32.11; Calm1 (mouse) mapping to 12 E.

## SOURCE

p-CaM I (Ser 81) is available as either goat (sc-17019) or rabbit (sc-17019-R) polyclonal antibody raised against a short amino acid sequence containing Ser 81 phosphorylated CaM I 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-17019 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

p-CaM I (Ser 81) is recommended for detection of Ser 81 phosphorylated CaM I 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), 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).

p-CaM I (Ser 81) is also recommended for detection of correspondingly phosphorylated CaM I in additional species, including equine, canine, bovine, porcine and avian.

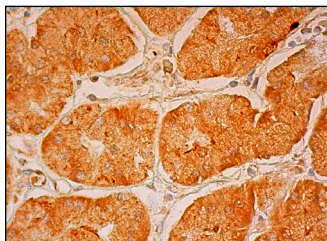
Suitable for use as control antibody for CaM I siRNA (h): sc-29896, CaM I siRNA (m): sc-29897, CaM I shRNA Plasmid (h): sc-29896-SH, CaM I shRNA Plasmid (m): sc-29897-SH, CaM I shRNA (h) Lentiviral Particles: sc-29896-V and CaM I shRNA (m) Lentiviral Particles: sc-29897-V.

Molecular Weight of p-CaM I: 17 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-17019): 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), for rabbit primary antibody (sc-17019-R): 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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: for goat primary antibody (sc-17019): 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, for rabbit primary antibody (sc-17019-R): 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 3) Immunohistochemistry: for goat primary antibody (sc-17019): use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems, for rabbit primary antibody (sc-17019-R): use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



p-CaM I (Ser 81): sc-17019. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic and nuclear staining of glandular cells.

## 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.