SANTA CRUZ BIOTECHNOLOGY, INC.

p-CaM I (Ser 101)-R: sc-23761-R

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The level of intracellular calcium is tightly regulated in all eukaryotic cells. A modest increase in the calcium level can results in a myriad of physiological response, 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 Ca^{2+} pump. This strongly suggests that phosphorylation of CaM is an important component of intracellular signaling.

REFERENCES

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5. Vogel, H.J. 1994 The Merck Forsst Award Lecture 1994. Calmodulin: a versatile calcium mediator protein. Biochem. Cell Biol. 72: 357-376.
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7. Crivici, A., et al. 1995. Molecular and structural basis of target recognition by calmodulin. Ann. Rev. Biophys. Biomolec. Struct. 24: 85-116.
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CHROMOSOMAL LOCATION

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

SOURCE

p-CaM I (Ser 101)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 101 phosphorylated CaM I of human origin.

STORAGE

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

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-23761 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-CaM I (Ser 101)-R is recommended for detection of Ser 101 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-CaM I (Ser 101)-R 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: 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: 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.

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.