

# CaM IV (M-14): sc-240197

## BACKGROUND

The level of intracellular calcium is tightly regulated in all eukaryotic cells. A modest increase in this level can result in a myriad of physiological responses, most of which are mediated by calmodulin (CaM), the universal calcium sensor. CaM directly modulates the activity of protein kinases and phosphatases, ion channels and nitric oxide synthetases. It is generally involved in such diverse processes as cell proliferation, endocytosis, cellular adhesion, protein turn over and smooth muscle contraction. CaM IV (calmodulin 4), also known as Calm4, Scarf (skin calmodulin-related factor) or calcium-binding protein Dd112, is a 148 amino acid novel murine protein that contains 4 EF-hand domains and is thought to play a role in early ectopic ossification. Involved in epidermal calcium homeostasis, CaM IV is encoded by a gene that maps to murine chromosome 13 A1.

## REFERENCES

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- Takuwa, N., et al. 1995. Calcium, calmodulin and cell cycle progression. *Cell. Signal.* 7: 93-104.
- Koshizuka, Y., et al. 2001. Isolation of novel mouse genes associated with ectopic ossification by differential display method using ttv, a mouse model for ectopic ossification. *Cytogenet. Cell Genet.* 94: 163-168.
- Hwang, M., et al. 2003. The novel murine Ca<sup>2+</sup>-binding protein, Scarf, is differentially expressed during epidermal differentiation. *J. Biol. Chem.* 278: 47827-47833.
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- Hwang, J., et al. 2007. Role of Scarf and its binding target proteins in epidermal calcium homeostasis. *J. Biol. Chem.* 282: 18645-18653.

## CHROMOSOMAL LOCATION

Genetic locus: Calm4 (mouse) mapping to 13 A1.

## SOURCE

CaM IV (M-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CaM IV of mouse 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-240197 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

CaM IV (M-14) is recommended for detection of CaM IV of mouse and rat 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); non cross-reactive with other CaM family members.

Suitable for use as control antibody for CaM IV siRNA (m): sc-72780, CaM IV shRNA Plasmid (m): sc-72780-SH and CaM IV shRNA (m) Lentiviral Particles: sc-72780-V.

Molecular Weight of CaM IV: 17 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.

## PROTOCOLS

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