

# CaMKK $\beta$ (C-18): sc-9631

## BACKGROUND

The Ca<sup>2+</sup>/calmodulin-dependent protein kinases (CaM kinases) are a structurally related subfamily of serine/threonine kinases that includes CaMKI, CaMKII and CaMKIV. CaMKI and CaMKIV are stimulated by Ca<sup>2+</sup> and CaM, but phosphorylation by a CaMK is also required for full activation. CaMKK $\alpha$  and CaMKK $\beta$  function to activate CaMKI through the specific phosphorylation of the regulatory threonine residue at position 177. CaMKK $\beta$  is also capable of phosphorylating CaMKIV on threonine residue 200.

## REFERENCES

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2. Haribabu, B., et al. 1995. Human calcium-calmodulin dependent protein kinase I: cDNA cloning, domain structure and activation by phosphorylation at threonine-177 by calcium-calmodulin dependent protein kinase I kinase. *EMBO J.* 14: 3679-3686.
3. Tombes, R.M., et al. 1995. G1 cell cycle arrest apoptosis is induced in NIH 3T3 cells by KN-93, an inhibitor of CaMKII (the multifunctional Ca<sup>2+</sup>/CaM kinase). *Cell Growth Differ.* 6: 1063-1070.
4. Hama, N., et al. 1995. Calcium/calmodulin-dependent protein kinase II downregulates both calcineurin and protein kinase c-mediated pathways for cytokine gene transcription in human T cells. *J. Exp. Med.* 181: 1217-1222.
5. Tokumitsu, H., et al. 1995. Characterization of a CaM-kinase cascade: molecular cloning and expression of calcium/calmodulin-dependent protein kinase kinase. *J. Biol. Chem.* 270: 19320-19324.
6. Park, I.K. and Soderling, T.R. 1995. Activation of Ca<sup>2+</sup>/calmodulin-dependent protein kinase (CaM-kinase) IV by CaM-kinase kinase in Jurkat T lymphocytes. *J. Biol. Chem.* 270: 30464-30469.
7. Anderson, K.A., et al. 1998. Components of a calmodulin-dependent protein kinase cascade. Molecular cloning, functional characterization and cellular localization of Ca<sup>2+</sup>/calmodulin-dependent protein kinase kinase  $\beta$ . *J. Biol. Chem.* 273: 31880-31889.

## CHROMOSOMAL LOCATION

Genetic locus: CAMKK2 (human) mapping to 12q24.31.

## SOURCE

CaMKK $\beta$  (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CaMKK $\beta$  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-9631 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CaMKK $\beta$  (C-18) is recommended for detection of CaMKK $\beta$  of 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).

Suitable for use as control antibody for CaMKK $\beta$  siRNA (h): sc-38955, CaMKK $\beta$  shRNA Plasmid (h): sc-38955-SH and CaMKK $\beta$  shRNA (h) Lentiviral Particles: sc-38955-V.

Molecular Weight of CaMKK $\beta$ : 66 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) 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.

## STORAGE

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

## 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.



Try **CaMKK $\beta$  (C-11): sc-271674** or **CaMKK $\beta$  (ZZ9): sc-100364**, our highly recommended monoclonal alternatives to CaMKK $\beta$  (C-18). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **CaMKK $\beta$  (C-11): sc-271674**.