

# CaMKK $\beta$ (V-18): sc-9630

## BACKGROUND

The Ca<sup>++</sup>/calmodulin-dependent protein kinases (CaM kinases) are a structurally related subfamily of serine/threonine kinases that includes CaMKI, CaMKII and CaMKIV (1-4). CaMKI and CaMKIV are stimulated by Ca<sup>++</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

1. Kitani, T., et al. 1994. cDNA cloning and expression of human calmodulin-dependent protein kinase IV. *J. Biochem.* 115: 637-640.
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 are induced in NIH 3T3 cells by KN-93, an inhibitor of CaMK-II (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. 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.

## CHROMOSOMAL LOCATION

Genetic locus: CAMKK2 (human) mapping to 12q24.31; Camkk2 (mouse) mapping to 5 F.

## SOURCE

CaMKK $\beta$  (V-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CaMKK $\beta$  of rat 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-9630 P, (100  $\mu$ 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.

## PROTOCOLS

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

## APPLICATIONS

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

Suitable for use as control antibody for CaMKK $\beta$  siRNA (h): sc-38955, CaMKK $\beta$  siRNA (m): sc-38956, CaMKK $\beta$  shRNA Plasmid (h): sc-38955-SH, CaMKK $\beta$  shRNA Plasmid (m): sc-38956-SH, CaMKK $\beta$  shRNA (h) Lentiviral Particles: sc-38955-V and CaMKK $\beta$  shRNA (m) Lentiviral Particles: sc-38956-V.

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

Positive Controls: rat cerebellum extract: sc-2398, IMR-32 cell lysate: sc-2409 or mouse brain extract: sc-2253.

## 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.

## SELECT PRODUCT CITATIONS

1. Yang, C.S., et al. 2013. Small heterodimer partner-targeting therapy inhibits systemic inflammatory responses through mitochondrial uncoupling protein 2. *PLoS ONE* 8: e63435.

## RESEARCH USE

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



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