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- Expressversand

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# CaMKK $\beta$ (h2): 293T Lysate: sc-170459

## 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

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. G<sub>1</sub> cell cycle arrest apoptosis are 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.

## PRODUCT

CaMKK $\beta$  (h2): 293T Lysate represents a lysate of human CaMKK $\beta$  transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

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

## APPLICATIONS

CaMKK $\beta$  (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive CaMKK $\beta$  antibodies. Recommended use: 10-20  $\mu$ l per lane.

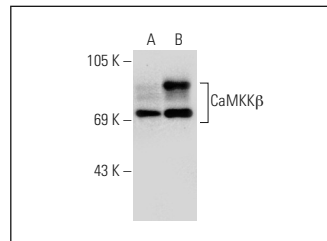
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CaMKK $\beta$  (Z29): sc-100364 is recommended as a positive control antibody for Western Blot analysis of enhanced human CaMKK $\beta$  expression in CaMKK $\beta$  transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



CaMKK $\beta$  (Z29): sc-100364. Western blot analysis of CaMKK $\beta$  expression in non-transfected: sc-117752 (A) and human CaMKK $\beta$  transfected: sc-170459 (B) 293T whole cell lysates.

## RESEARCH USE

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