SANTA CRUZ BIOTECHNOLOGY, INC.

CaMKKβ (J-22): sc-130712

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The Power to Question

BACKGROUND

The Ca^{2+}/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^{2+} and CaM, but phosphorylation by a CaMK is also required for full activation. CaMKKα and CAMKKβ function to activate CaMKI through the specific phosphorylation of the regulatory threonine residue at position 177. CAMKKβ 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_1 cell cycle arrest apoptosis are induced in NIH/3T3 cells by KN-93, an inhibitor of CaMKII (the multifunctional Ca^{2+}/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.

CHROMOSOMAL LOCATION

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

SOURCE

CaMKKβ (J-22) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of CaMKKβ of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CaMKKβ (J-22) is recommended for detection of CaMKKβ of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 CaMKKβ siRNA (h): sc-38955, CaMKKβ shRNA Plasmid (h): sc-38955-SH and CaMKKβ shRNA (h) Lentiviral Particles: sc-38955-V.

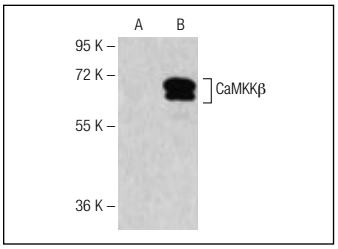
Molecular Weight of CaMKKβ: 66 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or human CaMKKb transfected 293 whole cell lysates.

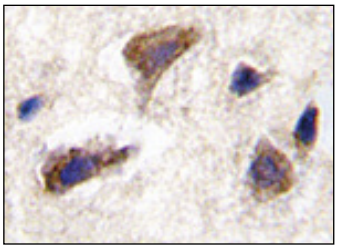
RECOMMENDED SECONDARY REAGENTS

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 A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



CaMKKβ (J-22): sc-130712. Western blot analysis of CaMKKβ expression in non-transfected (**A**) and human CaMKKβ transfected (**B**) 293 whole cell lysates.



CaMKK (J-22): sc-130712. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human brain tissue showing cytoplasmic localization.

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 or our catalog for detailed protocols and support products.