SANTA CRUZ BIOTECHNOLOGY, INC.

CaMKKβ (H-95): sc-50341

SANTA CRUZ BIOTECHNOLOGY

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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

CaMKKβ (H-95) is a rabbit polyclonal antibody raised against amino acids 1-95 mapping at the N-terminus of CaMKKβ of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

CaMKKβ (H-95) is recommended for detection of CaMKKβ of mouse, rat and 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).

CaMKKβ (H-95) is also recommended for detection of CaMKKβ in additional species, including bovine.

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

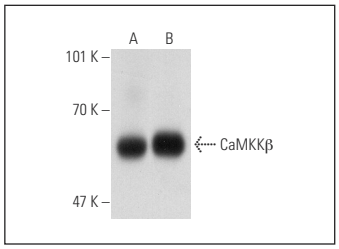
Molecular Weight of CaMKKβ: 66 kDa.

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

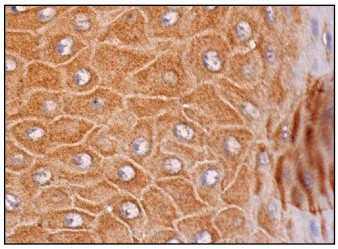
RECOMMENDED SECONDARY REAGENTS

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 (H-95): sc-50341. Western blot analysis of CaMKKβ expression in rat cerebellum (**A**) and mouse brain (**B**) tissue extracts.



CaMKKβ (H-95): sc-50341. Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Goravanahally, M.P., et al. 2009. Differential gene expression in the bovine corpus luteum during transition from early phase to midphase and its potential role in acquisition of luteolytic sensitivity to prostaglandin F2 α. Biol. Reprod. 80: 980-988.
2. Katta, A., et al. 2012. Diminished muscle growth in the obese Zucker rat following overload is associated with hyperphosphorylation of AMPK and dsRNA-dependent protein kinase. J. Appl. Physiol. 113: 377-384.
3. Kim, H.S., et al. 2013. Epigallocatechin-gallate (EGCG) stimulates autophagy in vascular endothelial cells: A potential role for reducing lipid accumulation. J. Biol. Chem. 288: 22693-22705.

RESEARCH USE

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