SANTA CRUZ BIOTECHNOLOGY, INC.

CaMKIIδ (A-17): sc-5392

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Ca^{2+}/calmodulin-dependent protein kinases (CaM kinases) comprise a structurally related subfamily of serine/threonine kinases which include CaMKI, CaMKII and CaMKIV. CaMKII is an ubiquitously expressed serine/threonine protein kinase that is activated by Ca^{2+} and calmodulin (CaM) and has been implicated in regulation of the cell cycle and transcription. There are four CaMKII isozymes, designated α, β, γ and δ, which may or may not be co-expressed in the same tissue type. CaMKIV is stimulated by Ca^{2+} and CaM but also requires phosphorylation by a CaMK for full activation. Stimulation of the T cell receptor CD3 signaling complex with an anti-CD3 monoclonal antibody leads to a 10-40-fold increase in CaMKIV activity. An additional kinase, CaMKK, functions to activate CaMKI through the specific phosphorylation of the regulatory threonine residue at position 177.

CHROMOSOMAL LOCATION

Genetic locus: Camk2d (mouse) mapping to 3 G1.

SOURCE

CaMKIIδ (A-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CaMKIIδ of rat origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-5392 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CaMKIIδ (A-17) is recommended for detection of CaMKIIδ of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); partially cross-reactive with CaMKIIβ.

CaMKIIδ (A-17) is also recommended for detection of CaMKIIδ in additional species, including equine and canine.

Suitable for use as control antibody for CaMKIIδ siRNA (m): sc-38954, CaMKIIδ siRNA (r): sc-270384, CaMKIIδ shRNA Plasmid (m): sc-38954-SH, CaMKIIδ shRNA Plasmid (r): sc-270384-SH, CaMKIIδ shRNA (m) Lentiviral Particles: sc-38954-V and CaMKIIδ shRNA (r) Lentiviral Particles: sc-270384-V.

Molecular Weight of CaMKIIδ: 54 kDa.

Positive Controls: mouse brain extract: sc-2253.

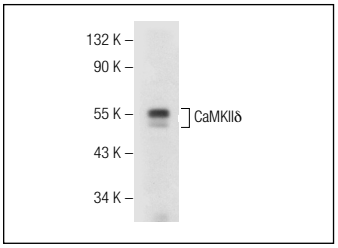
STORAGE

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.

DATA



CaMKIIδ (A-17): sc-5392. Western blot analysis of CaMKIIδ expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

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4. Sacchetto, R., et al. 2007. Glycogen synthase binds to sarcoplasmic reticulum and is phosphorylated by CaMKII in fast-twitch skeletal muscle. Arch. Biochem. Biophys. 459: 115-121.
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7. Peng, W., et al. 2010. Cardioprotection by CaMKII-δB is mediated by phosphorylation of heat shock factor 1 and subsequent expression of inducible heat shock protein 70. Circ. Res. 106: 102-110.
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