

CaMKI δ (C-22): sc-130125

BACKGROUND

The Ca²⁺/calmodulin-dependent protein kinases (CaMKs) comprise a structurally related subfamily of serine/threonine kinases. CaMKI δ (calcium/calmodulin-dependent protein kinase type I δ), also known as CKLiK or CaMK1, is a 385 amino acid protein that localizes to both the nucleus and the cytoplasm and contains one protein kinase domain. Expressed in a variety of tissues with higher expression in polymorphonuclear leukocytes, CaMKI δ functions to catalyze the ATP-dependent phosphorylation of target proteins and is thought to regulate calcium-mediated granulocyte function via a calcium-triggered signaling cascade. CaMKI δ is activated by CaM, which binds to and induces a conformational change in CaMKI δ , thereby allowing CaMKK α and CaMKK β to phosphorylate and, subsequently activate CaMKI δ . Nucleotide polymorphisms in the gene encoding CaMKI δ may increase susceptibility to type 2 diabetes. Two isoforms of CaMKI δ exist due to alternative splicing events.

REFERENCES

1. Verploegen, S., et al. 2000. Identification and characterization of CKLiK, a novel granulocyte Ca⁺⁺/calmodulin-dependent kinase. *Blood* 96: 3215-3223.
2. Hook, S.S., et al. 2001. Ca²⁺/CaM-dependent kinases: from activation to function. *Annu. Rev. Pharmacol. Toxicol.* 41: 471-505.

CHROMOSOMAL LOCATION

Genetic locus: CAMK1D (human) mapping to 10p13.

SOURCE

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

PRODUCT

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

APPLICATIONS

CaMKI δ (C-22) is recommended for detection of CaMKI δ of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 CaMKI δ siRNA (h): sc-90716, CaMKI δ shRNA Plasmid (h): sc-90716-SH and CaMKI δ shRNA (h) Lentiviral Particles: sc-90716-V.

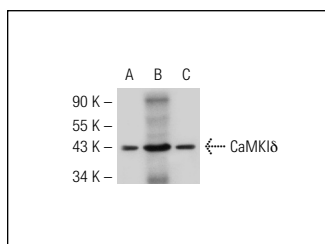
Molecular Weight of CaMKI δ : 40 kDa.

Positive Controls: CaMKI δ (h): 293T Lysate: sc-115424, NCIH460 whole cell lysate or human cancer tissue.

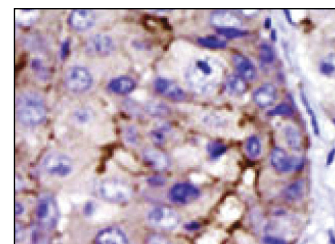
RECOMMENDED SECONDARY REAGENTS

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



CaMKI δ (C-22): sc-130125. Western blot analysis of CaMKI δ expression in non-transfected 293T: sc-117752 (A), mouse CaMKI δ transfected 293T: sc-115424 (B) and Daudi (C) whole cell lysates.



CaMKI δ (C-22): sc-130125. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cancer tissue showing cytoplasmic staining.

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.



Try **CaMKI δ (C-9): sc-374028**, our highly recommended monoclonal alternative to CaMKI δ (C-22).