

CaMKI γ (J-21): sc-130711

BACKGROUND

The Ca²⁺/calmodulin-dependent protein kinases (CaMKs) comprise a structurally related subfamily of serine/threonine kinases. CaMKI γ (calcium/calmodulin-dependent protein kinase I γ), also known as VWS1 or CLICKIII, is a 476 amino acid protein that localizes to both the cytoplasm and to the membrane of the Golgi apparatus and contains one protein kinase domain. Expressed predominately in brain and present at lower levels in spleen, liver, kidney and skeletal muscle, CaMKI γ functions as a Ca²⁺/calmodulin-dependent protein kinase that uses ATP to catalyze the phosphorylation of target proteins, such as the transcription factor CREB-1. CaMKI γ exists as multiple alternatively spliced isoforms and is encoded by a gene which maps to human chromosome 1.

REFERENCES

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- Schutte, B.C., et al. 2000. A preliminary gene map for the Van der Woude syndrome critical region derived from 900 kb of genomic sequence at 1q32-q41. *Genome Res.* 10: 81-94.
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- Takemoto-Kimura, S., et al. 2003. Molecular cloning and characterization of CLICK-III/CaMKI γ , a novel membrane-anchored neuronal Ca²⁺/calmodulin-dependent protein kinase (CaMK). *J. Biol. Chem.* 278: 18597-18605.
- Nishimura, H., et al. 2003. Cloning, characterization and expression of two alternatively splicing isoforms of Ca²⁺/calmodulin-dependent protein kinase I γ in the rat brain. *J. Neurochem.* 85: 1216-1227.
- Takemoto-Kimura, S., et al. 2007. Regulation of dendritogenesis via a lipid-raft-associated Ca²⁺/calmodulin-dependent protein kinase CLICK-III/CaMKI γ . *Neuron* 54: 755-770.
- Colomer, J. and Means, A.R. 2007. Physiological roles of the Ca²⁺/CaM-dependent protein kinase cascade in health and disease. *Subcell. Biochem.* 45: 169-214.

CHROMOSOMAL LOCATION

Genetic locus: CAMK1G (human) mapping to 1q32.2.

SOURCE

CaMKI γ (J-21) is a purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of CaMKI γ 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.

STORAGE

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

APPLICATIONS

CaMKI γ (J-21) is recommended for detection of CaMKI γ 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CaMKI γ siRNA (h): sc-88278, CaMKI γ shRNA Plasmid (h): sc-88278-SH and CaMKI γ shRNA (h) Lentiviral Particles: sc-88278-V.

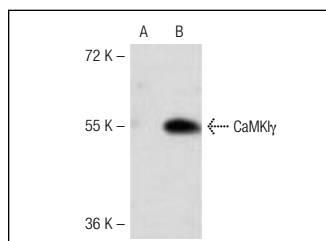
Molecular Weight of CaMKI γ : 53 kDa.

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

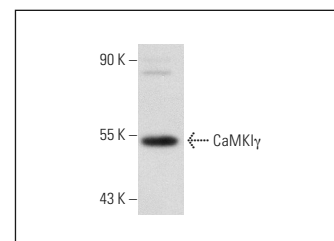
RECOMMENDED SECONDARY REAGENTS

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).

DATA



CaMKI γ (J-21): sc-130711. Western blot analysis of CaMKI γ expression in non-transfected (A) and human CaMKI γ transfected (B) 293 whole cell lysates.



CaMKI γ (J-21): sc-130711. Western blot analysis of CaMKI γ expression in IMR-32 whole cell lysate.

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.


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Try **CaMKI γ (10G8): sc-134296**, our highly recommended monoclonal alternative to CaMKI γ (J-21).