

CaMKII γ (D-16): sc-27537

BACKGROUND

Ca²⁺/calmodulin-dependent protein kinase II (CaMKII) is a Ca²⁺-signaling intermediate that contains α , β , γ and δ subunits. Calcium oscillations, autophosphorylation and subunit composition of CaMKII influences the level of regulation of cellular events, including cell cycle and transcription. Several CaMKII protein isoforms are present in biliary epithelium.

REFERENCES

1. Nghiem, P., et al. 1993. Cloning and analysis of two new isoforms of multifunctional Ca²⁺/calmodulin-dependent protein kinase. Expression in multiple human tissues. *J. Biol. Chem.* 268: 5471-5479.
2. Kwiatkowski, A.P., et al. 2000. Alternative splice variant of γ calmodulin-dependent protein kinase II alters activation by calmodulin. *Arch. Biochem. Biophys.* 378: 377-383.
3. Bui, J.D., et al. 2000. A role for CaMKII in T cell memory. *Cell* 100: 457-467.
4. Lorenz, J.M., et al. 2002. Differential autophosphorylation of CaMKII from phasic and tonic smooth muscle tissues. *Am. J. Physiol., Cell. Physiol.* 283: 1399-1413.
5. Gloyn, A.L., et al. 2002. Human calcium/calmodulin-dependent protein kinase II γ gene (CAMK2G): cloning, genomic structure and detection of variants in subjects with type II diabetes. *Diabetologia* 45: 580-583.
6. Gaertner, T.R., et al. 2004. Comparative analyses of the three-dimensional structures and enzymatic properties of α , β , γ and δ isoforms of Ca²⁺-calmodulin-dependent protein kinase II. *J. Biol. Chem.* 279: 12484-12494.

CHROMOSOMAL LOCATION

Genetic locus: CAMK2G (human) mapping to 10q22.2.

SOURCE

CaMKII γ (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CaMKII γ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-27537 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

CaMKII γ (D-16) is recommended for detection of CaMKII γ of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for CaMKII γ siRNA (h): sc-29898, CaMKII γ shRNA Plasmid (h): sc-29898-SH and CaMKII γ shRNA (h) Lentiviral Particles: sc-29898-V.

Molecular Weight of: CaMKII γ : 55-62 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Mouton-Liger, F., et al. 2011. PCP4 (PEP19) overexpression induces premature neuronal differentiation associated with Ca²⁺/calmodulin-dependent kinase II- δ activation in mouse models of Down syndrome. *J. Comp. Neurol.* 519: 2779-2802.