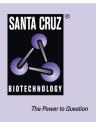
# SANTA CRUZ BIOTECHNOLOGY, INC.

# CaMKIIγ (D-16): sc-27537



BACKGROUND

Ca<sup>2+</sup>/calmodulin-dependent protein kinase II (CaMKII) is a Ca<sup>2+</sup>-signaling intermediate that contains  $\alpha$ ,  $\beta$ ,  $\gamma$  and  $\delta$  subunits. Calcium oscillations, autophosphorylation and subunit composition of CaMKII influences the level of regulation of cellular events, including cell cycle and transcription. Several CaMKIl $\gamma$  protein isoforms are present in biliary epithelium.

#### REFERENCES

- Nghiem, P., et al. 1993. Cloning and analysis of two new isoforms of multifunctional Ca<sup>2+</sup>/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  $\gamma$  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.
- 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.
- 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  $\alpha$ ,  $\beta$ ,  $\gamma$  and  $\delta$  isoforms of Ca<sup>2+</sup>-calmodulin-dependent protein kinase II. J. Biol. Chem. 279: 12484-12494.

#### CHROMOSOMAL LOCATION

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

# SOURCE

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

# PRODUCT

Each vial contains 200  $\mu g$  lgG 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  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

#### **STORAGE**

Store at 4° C, \*\*D0 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<sub>Y</sub> (D-16) is recommended for detection of CaMKII<sub>Y</sub> 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 $\gamma$  siRNA (h): sc-29898, CaMKII $\gamma$  shRNA Plasmid (h): sc-29898-SH and CaMKII $\gamma$  shRNA (h) Lentiviral Particles: sc-29898-V.

Molecular Weight of: CaMKII<sub>Y</sub>: 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) Immunofluo-rescence: use donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

#### SELECT PRODUCT CITATIONS

 Mouton-Liger, F., et al. 2011. PCP4 (PEP19) overexpression induces premature neuronal differentiation associated with Ca<sup>2+</sup>/calmodulindependent kinase II-8 activation in mouse models of Down syndrome. J. Comp. Neurol. 519: 2779-2802.