

CaMKII γ (C-18): sc-1541

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 γ protein isoforms are present in biliary epithelium.

REFERENCES

1. Nghiem, P., et al. 1993. Cloning and analysis of two new isoforms of multi-functional 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.

CHROMOSOMAL LOCATION

Genetic locus: CAMK2G (human) mapping to 10q22.2; Camk2g (mouse) mapping to 14 A3.

SOURCE

CaMKII γ (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at 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-1541 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CaMKII γ (C-18) is recommended for detection of CaMKII γ of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); partially cross-reactive with CaMKII β .

CaMKII γ (C-18) is also recommended for detection of CaMKII γ in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CaMKII γ siRNA (h): sc-29898, CaMKII γ siRNA (m): sc-29899, CaMKII γ shRNA Plasmid (h): sc-29898-SH, CaMKII γ shRNA Plasmid (m): sc-29899-SH, CaMKII γ shRNA (h) Lentiviral Particles: sc-29898-V and CaMKII γ shRNA (m) Lentiviral Particles: sc-29899-V.

Molecular Weight of CaMKII γ : 55-62 kDa.

Positive Controls: CaMKII γ (h2): 293T Lysate: sc-170950, mouse brain extract: sc-2253 or A-10 cell lysate: sc-3806.

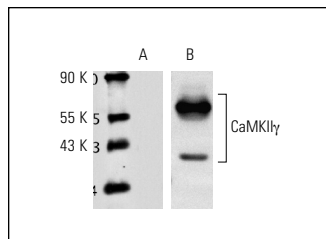
RESEARCH USE

For research use only, not for use in diagnostic procedures.

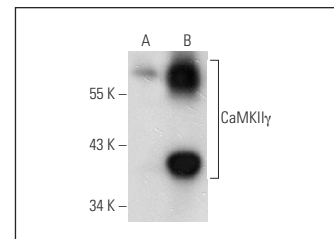
STORAGE

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

DATA



CaMKII γ (C-18): sc-1541. Western blot analysis of CaMKII γ expression in mouse brain extract (A) and A-10 whole cell lysate (B).



CaMKII γ (C-18): sc-1541. Western blot analysis of CaMKII γ expression in non-transfected: sc-117752 (A) and human CaMKII γ transfected: sc-170950 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tighilet, B., et al. 1998. Cell-specific expression of type II calcium/calmodulin-dependent protein kinase isoforms and glutamate receptors in normal and visually deprived lateral geniculate nucleus of monkeys. *J. Comp. Neurol.* 390: 278-296.
2. Tabuchi, H., et al. 2000. Regulation of Insulin secretion by overexpression of Ca²⁺/calmodulin-dependent protein kinase II in Insulinoma MIN6 cells. *Endocrinology* 141: 2350-2360.
3. Hughes, K., et al. 2001. Calmodulin-dependent kinase II mediates T cell receptor/CD3⁻ and phorbol ester-induced activation of I κ B kinase. *J. Biol. Chem.* 276: 36008-36013.
4. Nair, J.S., et al. 2002. Requirement of Ca²⁺ and CaMKII for Stat1 Ser 727 phosphorylation in response to IFN- γ . *Proc. Natl. Acad. Sci. USA* 99: 5971-5976.
5. Holmfeldt, P., et al. 2004. Differential functional interplay of TOGp/XMAP215 and the Klnl kinesin MCAK during interphase and mitosis. *EMBO J.* 23: 627-637.
6. Akimoto, T., et al. 2004. Skeletal muscle adaptation in response to voluntary running in Ca²⁺/calmodulin-dependent protein kinase IV-deficient mice. *Am. J. Physiol., Cell Physiol.* 287: 1311-1319.
7. 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.
8. Martinez-Pena y Valenzuela, I., et al. 2010. Calcium/calmodulin kinase II-dependent acetylcholine receptor cycling at the mammalian neuromuscular junction *in vivo*. *J. Neurosci.* 30: 12455-12465.
9. Zizak, M., et al. 2012. Calmodulin kinase II constitutively binds, phosphorylates, and inhibits brush border Na⁺/H⁺ exchanger 3 (NHE3) by a NHERF2 protein-dependent process. *J. Biol. Chem.* 287: 13442-13456.