SANTA CRUZ BIOTECHNOLOGY, INC.

CaMKIIγ (8G10C1): sc-517278

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ca^{2+}/calmodulin-dependent protein kinase II (CaMKII) is a Ca^{2+}-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 CaMKIIγ protein isoforms are present in biliary epithelium.

CHROMOSOMAL LOCATION

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

SOURCE

CaMKIIγ (8G10C1) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 322-481 of CaMKIIγ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CaMKIIγ (8G10C1) is available conjugated to agarose (sc-517278 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-517278 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-517278 PE), fluorescein (sc-517278 FITC), Alexa Fluor® 488 (sc-517278 AF488), Alexa Fluor® 546 (sc-517278 AF546), Alexa Fluor® 594 (sc-517278 AF594) or Alexa Fluor® 647 (sc-517278 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-517278 AF680) or Alexa Fluor® 790 (sc-517278 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

CaMKIIγ (8G10C1) is recommended for detection of CaMKIIγ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CaMKIIγ siRNA (h): sc-29898, CaMKIIγ siRNA (m): sc-29899, CaMKIIγ siRNA (r): sc-270386, CaMKIIγ shRNA Plasmid (h): sc-29898-SH, CaMKIIγ shRNA Plasmid (m): sc-29899-SH, CaMKIIγ shRNA Plasmid (r): sc-270386-SH, CaMKIIγ shRNA (h) Lentiviral Particles: sc-29898-V, CaMKIIγ shRNA (m) Lentiviral Particles: sc-29899-V and CaMKIIγ shRNA (r) Lentiviral Particles: sc-270386-V.

Molecular Weight of CaMKIIγ: 55-62 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, Jurkat whole cell lysate: sc-2204 or C2C12 whole cell lysate: sc-364188.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

SELECT PRODUCT CITATIONS

1. Nicole, O., et al. 2018. A novel role for CAMKIIβ in the regulation of cortical neuron migration: implications for neurodevelopmental disorders. Mol. Psychiatry 23: 2209-2226.
2. Yang, L., et al. 2020. CAMKIIγ is a targetable driver of multiple myeloma through CaMKIIγ/Stat3 axis. Aging 12: 13668-13683.
3. Huang, R., et al. 2020. MicroRNA-219a-5p-mediated inhibition of CaMKIIγ facilitates vestibular compensation in acute vertigo by promoting protein kinase C expression. Ann. N.Y. Acad. Sci. E-published.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.