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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

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- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Anti-CaMKII (Alpha-Specific) Antibody [6G9]

Mouse Anti-Rat CaMKII (Alpha-Specific) Monoclonal IgG1
Catalog No. SMC-124

StressMarq Biosciences INC.
Discovery through partnership | Excellence through quality

Overview

Product Name

CaMKII (Alpha-Specific) Antibody

Description

Mouse Anti-Rat CaMKII (Alpha-Specific) Monoclonal IgG1

Species Reactivity

Human, Mouse, Rat, Bovine

Applications

WB, IHC, ICC/IF, IP, ELISA, RIA

Antibody Dilution

WB (1:10000), IHC (1:2000), ICC/IF (1:50); optimal dilutions for assays should be determined by the user.

Host Species

Mouse

Immunogen Species

Rat

Immunogen

Partially purified rat CaMKII

Concentration

1 mg/ml

Conjugates

Alkaline Phosphatase, APC, ATTO 390, ATTO 488, ATTO 565, ATTO 594, ATTO 633, ATTO 655, ATTO 680, ATTO 700, Biotin, FITC, HRP, PE/ATTO 594, PerCP, RPE, Streptavidin, Unconjugated

Properties

Storage Buffer

PBS pH7.4, 50% glycerol, 0.09% sodium azide

Storage Temperature

-20ºC

Shipping Temperature

Blue Ice or 4ºC

Purification

Protein G Purified

Clonality

Monoclonal

Clone Number

6G9

Isotype

IgG1

Specificity

Detects ~50-60kDa. Recognizes both phosphorylated and non-phosphorylated forms.

Cite This Product

Mouse Anti-Rat CaMKII Monoclonal, Clone 6G9 (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SMC-124)

Certificate Of Analysis

0.1 µg/ml was sufficient for detection of CamKII in 20 µg rat brain tissue extract by colorimetric immunoblot analysis using Goat Anti-Mouse IgG:AP as the secondary.

Biological Description

Alternative Names

CamK2 Antibody, CamK2A Antibody, CamK2B Antibody, CamK2D Antibody, CamK2G Antibody, CAMKA Antibody

Research Areas

Cell Signaling, Phosphorylation, Post-translational Modifications

Cellular Localization

Cytoplasm, Cell Junction, Mitochondrion, Nucleus, Presynaptic Cell Membrane, Synapse

Accession Number

NP_033922.1

Gene ID

12322

Swiss Prot

P11798

Scientific Background

CaMKII is an important member of the calcium/calmodulin-activated protein kinase family, functioning in neural synaptic stimulation and T-cell receptor signaling (1, 2). CaMKII is expressed in many different tissues but is specifically found in the neurons of the forebrain and its mRNA is found within the dendrites and the soma of the neuron. The CaMKII that is found in the neurons consist of two subunits of 52 (termed alpha genes) and 60 kDa (beta genes). CaMKII has catalytic and regulatory domains, as well as an ATP-binding domain, and a consensus phosphorylation site (3-7). The binding of Ca2+/calmodulin to its regulatory domain releases its auto inhibitory effect and activates the kinase (8). This kinase activation results in autophosphorylation at threonine 286 (8). The threonine phosphorylation state of CaMKII can be regulated through PP1/PKA. Whereas PP1 (protein phosphatase 1) dephosphorylates phospho-CaMKII at Thr286, PKA (protein kinase A) prevents this dephosphorylation (9). Autophosphorylation also enables CaMKII to attain an enhanced affinity for NMDA receptors in postsynaptic densities (10-12).

References

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2. Barria A. et al. (1997) Science 276: 20422045.
3. Bennet M.K. and Kennedy M.B. (1987) Proc. Natl. Acad. Sci. U.S.A. 84: 1794-1798.
4. Broke L., Srinivasan M. and Schulman H. (1995) J. Neurosci. 15: 6797-6808.
5. Nghiem P., Saati S. M., Martens C. L., Gardner P. and Schulman H. (1993) J. Biol. Chem. 268: 5471-5479.
6. Edman C.F. and Schulman H. (1994) Biochem. Biophys. Acta 1221: 90-102.
7. Tombes R.M. and Krystal G.W., (1997) Biochem. Biophys. Acta 13555: 281-292.
8. Means A.R. (2000) Mol. Endocrinol. 14: 412.
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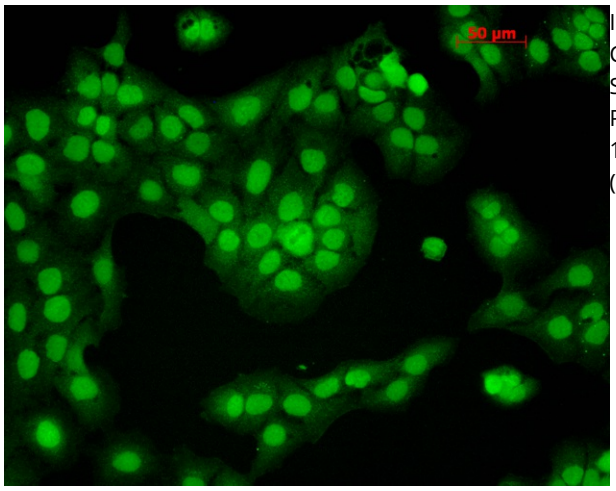
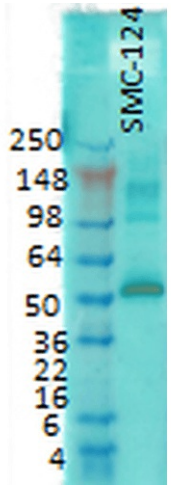
10. Strack S. and Colbran R.J. (1998) J. Biol. Chem. 273: 20689-20692.
11. Leonard S.A., Lim I.A., Hemsworth D.E., Horne M.C. and Hell J.W. (1999) Proc. Natl. Acad. Sci. U.S.A. 96: 3239-3244.
12. Shen K. and Meyer Y. (1999) Science 284: 162-167.

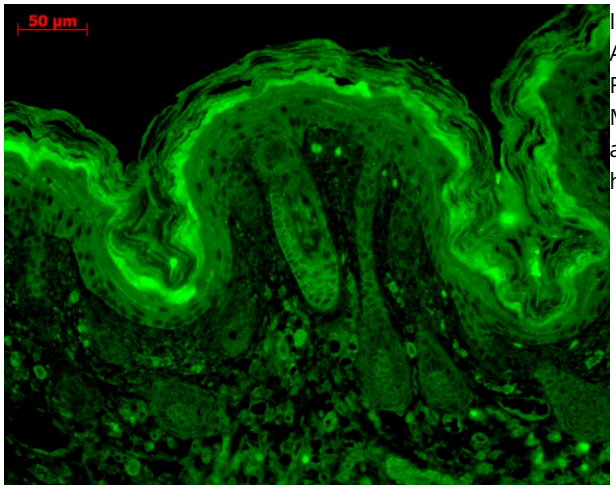
Product Images



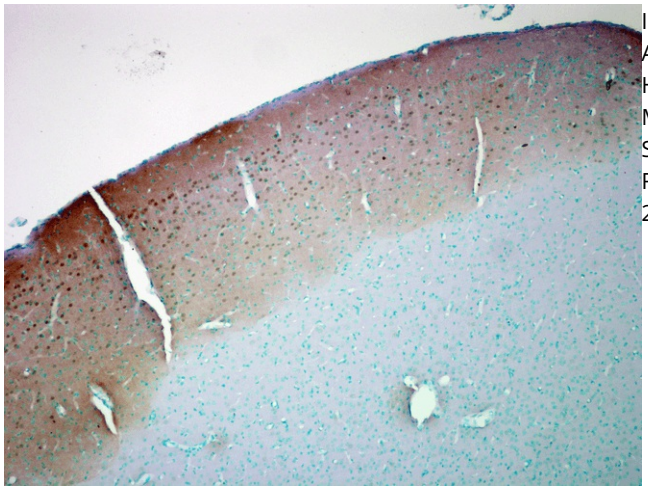
Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-CaMKII Monoclonal Antibody, Clone 6G9 (SMC-124). Tissue: HaCaT cells. Species: Human. Fixation: Cold 100% methanol for 10 minutes at -20°C. Primary Antibody: Mouse Anti-CaMKII Monoclonal Antibody (SMC-124) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT. Localization: Nuclear Staining.



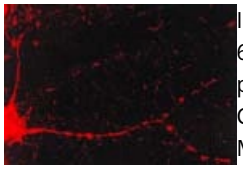
Western Blot analysis of Rat brain membrane lysate showing detection of CaMKII protein using Mouse Anti-CaMKII Monoclonal Antibody, Clone 6G9 (SMC-124). Primary Antibody: Mouse Anti-CaMKII Monoclonal Antibody (SMC-124) at 1:1000.



Immunohistochemistry analysis using Mouse Anti-CaMKII Monoclonal Antibody, Clone 6G9 (SMC-124). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-CaMKII Monoclonal Antibody (SMC-124) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT. Localization: Hair follicles, epidermis.



Immunohistochemistry analysis using Mouse Anti-CaMKII Monoclonal Antibody, Clone 6G9 (SMC-124). Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Mouse Anti-CaMKII Monoclonal Antibody (SMC-124) at 1:10000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 µl for 2 minutes at RT. Magnification: 40x.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-CaMKII Monoclonal Antibody, Clone 6G9 (SMC-124). Tissue: dissociated hippocampal neurons. Species: Mouse. Fixation: Cold 4% paraformaldehyde/0.2% glutaraldehyde in 0.1M sodium phosphate buffer. Primary Antibody: Mouse Anti-CaMKII Monoclonal Antibody (SMC-124) at 1:1000 for 12 hours at 4°C. Secondary Antibody: FITC Goat Anti-Mouse IgG (green) at 1:50 for 30 minutes at RT. Magnification: 10X. Courtesy of: Mary Kennedy, Caltech.

Product Citations (1)

Western Blot

Cytoskeletal disassembly and cell rounding promotes adipogenesis from ES cells.

Feng, T., Szabo, E., Dziak, E. and Opas, M. -2010 Stem Cell Rev. 6 (1): 74-85.

PubMed ID: 20148318 **Reactivity:** Mouse **Applications:** Western Blot

Reviews

Based on validation through cited publications.

★★★★★

StressMarq Biosciences
June 14, 2016: