

AKAP 9 (G-20): sc-34384

BACKGROUND

The type II cAMP-dependent protein kinase (PKA) is a multifunctional kinase with a broad range of substrates. Specificity of PKA signaling is mediated by the compartmentalization of the kinase to specific sites within the cell. To maintain this specific localization, the R subunit (RII) of PKA interacts with specific RII-anchoring proteins. This family of proteins is designated A-kinase anchoring proteins (AKAP). AKAP 9, also designated AKAP 450, is a 3,911 amino acid protein which undergoes alternative splicing resulting in multiple isoforms including, AKAP 350 and Yotiao. Research has found AKAP 9 localized to both centrosomes and the Golgi apparatus throughout the cell cycle, and it is suggested that AKAP 9 may function as a scaffolding protein assembling protein kinases and phosphatases based on substrate-specific phosphorylation. An N-terminal sequence from amino acids 1-1,626 is identical between the AKAP 9 and Yotiao proteins. The unique C-terminus of the Yotiao isoform contains an additional 12 amino acid sequence not shared with AKAP 9. Yotiao is expressed primarily in pancreas and skeletal muscle. Yotiao interacts with the NR1 sub-unit of the NMDA receptor. Co-assembly of Yotiao/PKAII complexes with NR1 subunits promote cAMP-dependent modulation of NMDA receptor activity at synapses, thereby influencing brain development and synaptic plasticity.

REFERENCES

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3. Marx, S.O., et al. 2002. Requirement of a macromolecular signaling complex for β adrenergic receptor modulation of the KCNQ1-KCNE1 potassium channel. *Science* 295: 496-799.
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CHROMOSOMAL LOCATION

Genetic locus: AKAP9 (human) mapping to 7q21.2; Akap9 (mouse) mapping to 5 A1.

SOURCE

AKAP 9 (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of AKAP 9 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-34384 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AKAP 9 (G-20) is recommended for detection of AKAP 9 of mouse, rat and 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).

AKAP 9 (G-20) is also recommended for detection of AKAP 9 in additional species, including canine and bovine.

Suitable for use as control antibody for AKAP 9 siRNA (h): sc-45364, AKAP 9 siRNA (m): sc-45365, AKAP 9 shRNA Plasmid (h): sc-45364-SH, AKAP 9 shRNA Plasmid (m): sc-45365-SH, AKAP 9 shRNA (h) Lentiviral Particles: sc-45364-V and AKAP 9 shRNA (m) Lentiviral Particles: sc-45365-V.

Molecular Weight of full-length AKAP 9: 453 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.

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.

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Try **AKAP 9 (7E12): sc-517030**, our highly recommended monoclonal alternative to AKAP 9 (G-20).