

AKAP 79 (D-9): sc-17772

BACKGROUND

The type II cAMP-protein kinase (PKA) is a multifunctional kinase with a broad range of substrates. Specificity of PKA signaling is thought to be 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 has been designated A-kinase anchoring proteins (AKAP). Members of this family, including MAP2 (microtubule-associated protein 2), neuronally expressed AKAP 79 and AKAP 150 and the DNA binding AKAP 95, display differential tissue specificity and localization. Evidence suggests that AKAP 79 and AKAP 150 are both capable of anchoring PKA to postsynaptic densities (PSD), which are a network of proteins located on the internal surfaces of excitatory synapses.

CHROMOSOMAL LOCATION

Genetic locus: AKAP5 (human) mapping to 14q23.3.

SOURCE

AKAP 79 (D-9) is a mouse monoclonal antibody raised against amino acids 181-285 of AKAP 79 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AKAP 79 (D-9) is available conjugated to agarose (sc-17772 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17772 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17772 PE), fluorescein (sc-17772 FITC), Alexa Fluor® 488 (sc-17772 AF488), Alexa Fluor® 546 (sc-17772 AF546), Alexa Fluor® 594 (sc-17772 AF594) or Alexa Fluor® 647 (sc-17772 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17772 AF680) or Alexa Fluor® 790 (sc-17772 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

AKAP 79 (D-9) is recommended for detection of AKAP 79 of 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for AKAP 79 siRNA (h): sc-29660, AKAP 79 shRNA Plasmid (h): sc-29660-SH and AKAP 79 shRNA (h) Lentiviral Particles: sc-29660-V.

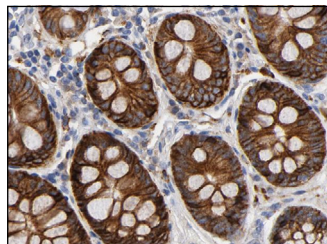
Molecular Weight of AKAP 79: 79 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, H4 cell lysate: sc-2408 or JAR cell lysate: sc-2276.

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.

DATA



AKAP 79 (D-9): sc-17772. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic and membrane staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

- Kocer, S.S., et al. 2012. "Shaping" of cell signaling via AKAP-tethered PDE4D: probing with AKAR2-AKAP5 biosensor. *J. Mol. Signal.* 7: 4.
- Oldenburger, A., et al. 2014. A-kinase anchoring proteins contribute to loss of E-cadherin and bronchial epithelial barrier by cigarette smoke. *Am. J. Physiol., Cell Physiol.* 306: C585-C597.
- Poppinga, W.J., et al. 2015. A-kinase-anchoring proteins coordinate inflammatory responses to cigarette smoke in airway smooth muscle. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 308: L766-L775.
- Guercio, L.A., et al. 2018. A-kinase anchoring protein 150 (AKAP150) promotes cocaine reinstatement by increasing AMPA receptor transmission in the accumbens shell. *Neuropsychopharmacology* 43: 1395-1404.
- Li, J.B., et al. 2023. p85S6K sustains synaptic GluA1 to ameliorate cognitive deficits in Alzheimer's disease. *Transl. Neurodegener.* 12: 1.
- Zhang, T., et al. 2023. The expression of Epac2 and GluA3 in an Alzheimer's disease experimental model and postmortem patient samples. *Biomedicines* 11: 2096.

STORAGE

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