

AKAP 79 (22): sc-135826

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.

REFERENCES

1. Scott, J.D., et al. 1990. Type II regulatory subunit dimerization determines the subcellular localization of the cAMP-dependent protein kinase. *J. Biol. Chem.* 265: 21561-21566.
2. Carr, D.W., et al. 1992. Localization of the cAMP-dependent protein kinase to the postsynaptic densities by A-kinase anchoring proteins. Characterization of AKAP 79. *J. Biol. Chem.* 267: 16816-16823.
3. Coghlan, V.M., et al. 1993. A-kinase anchoring proteins: a key to selective activation of cAMP-responsive events? *Mol. Cell. Biochem.* 127: 309-319.
4. Coghlan, V.M., et al. 1994. Cloning and characterization of AKAP 95, a nuclear protein that associates with the regulatory subunit of type II cAMP-dependent protein kinase. *J. Biol. Chem.* 269: 7658-7665.
5. Coghlan, V.M., et al. 1995. Association of protein kinase A and protein phosphatase 2B with a common anchoring protein. *Science* 267: 108-111.
6. Lester, L.B., et al. 1996. Cloning and characterization of a novel A-kinase anchoring protein. AKAP 220, association with testicular peroxisomes. *J. Biol. Chem.* 271: 9460-9465.

CHROMOSOMAL LOCATION

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

SOURCE

AKAP 79 (22) is a mouse monoclonal antibody raised against amino acids 180-427 of AKAP 79 of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

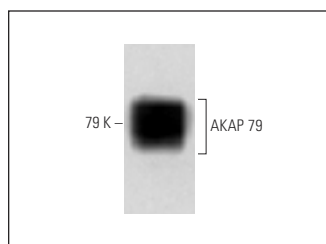
AKAP 79 (22) is recommended for detection of AKAP 79 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); not recommended for immunoprecipitation.

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.

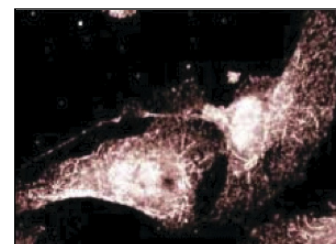
Molecular Weight of AKAP 79: 79 kDa.

Positive Controls: SW-13 cell lysate: sc-24778, IMR-32 cell lysate: sc-2409 or H4 cell lysate: sc-2408.

DATA



AKAP 79 (22): sc-135826. Western blot analysis of AKAP 79 expression in SW-13 whole cell lysate.



AKAP 79 (22): sc-135826. Immunofluorescence staining of human fibroblast cells showing membrane localization.

RESEARCH USE

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