

AKAP 8L (A-1): sc-376630

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. The family of RII-anchoring proteins has been designated A-kinase anchoring proteins (AKAP). AKAP 8, also known as AKAP 95, is a nuclear matrix protein predominantly expressed in liver, heart, pancreas, kidney and skeletal muscle. During mitosis, AKAP 8 is recruited to the chromosomes and plays an essential role in mitotic progression. AKAP 8L (AKAP 8-like), also known as HA95 (homologous to AKAP 95 protein), HAP95 (helicase A-binding protein 95), NAKAP or NAKAP95 (neighbor of AKAP 95), is also a nuclear matrix protein and shares 61% homology and 30% identity with AKAP 8. In addition, AKAP 8L forms a complex with AKAP 8 and HDAC3 and is required for the deacetylation of Histone H3 in mitosis.

REFERENCES

1. 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.
2. Collas, P., et al. 1999. The A-kinase-anchoring protein AKAP95 is a multivalent protein with a key role in chromatin condensation at mitosis. *J. Cell Biol.* 147: 1167-1180.
3. Orstavik, S., et al. 2000. Identification, cloning and characterization of a novel nuclear protein, HA95, homologous to A-kinase anchoring protein 95. *Biol. Cell* 92: 27-37.
4. Westberg, C., et al. 2000. A novel shuttle protein binds to RNA helicase A and activates the retroviral constitutive transport element. *J. Biol. Chem.* 275: 21396-21401.

CHROMOSOMAL LOCATION

Genetic locus: AKAP8L (human) mapping to 19p13.12; Akap8l (mouse) mapping to 17 B1.

SOURCE

AKAP 8L (A-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 617-647 at the C-terminus of AKAP 8L of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376630 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

AKAP 8L (A-1) is recommended for detection of AKAP 8L of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AKAP 8L siRNA (h): sc-97872, AKAP 8L siRNA (m): sc-140978, AKAP 8L shRNA Plasmid (h): sc-97872-SH, AKAP 8L shRNA Plasmid (m): sc-140978-SH, AKAP 8L shRNA (h) Lentiviral Particles: sc-97872-V and AKAP 8L shRNA (m) Lentiviral Particles: sc-140978-V.

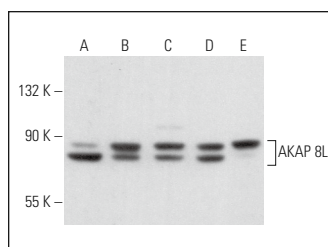
Molecular Weight of AKAP 8L: 100 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or Y79 cell lysate: sc-2240.

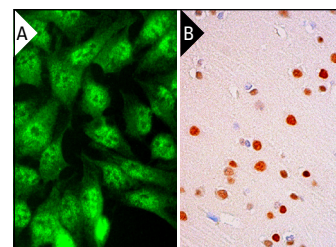
RECOMMENDED SUPPORT REAGENTS

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 8L (A-1): sc-376630. Western blot analysis of AKAP 8L expression in Jurkat (A), HeLa (B), Y79 (C), RPE-J (D) and PC-3 (E) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



AKAP 8L (A-1): sc-376630. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing nuclear staining of neuronal cells and glial cells (B).

SELECT PRODUCT CITATIONS

1. Bieluszewska, A., et al. 2018. PKA-binding domain of AKAP8 is essential for direct interaction with DPY30 protein. *FEBS J.* 285: 947-964.

RESEARCH USE

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