SANTA CRUZ BIOTECHNOLOGY, INC.

AKAP 95 (F-11): sc-390335

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 95, also known as AKAP 8, is a nuclear matrix protein predominantly expressed in liver, heart, pancreas, kidney and skeletal muscle. During mitosis, AKAP 95 is recruited to the chromosomes and plays an essential role in mitotic progression. Characteristic of its family, AKAP 95 participates in PKA signaling through an interaction with the RII regulatory subunit. In addition, AKAP 95 forms a complex with HA95 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. Coghlan, V.M., et al. 1995. Association of protein kinase A and protein phosphatase 2B with a common anchoring protein. Science 267: 108-111.
3. 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.
4. Collas, P., et al. 1999. The A-kinase-anchoring protein AKAP 95 is a multivalent protein with a key role in chromatin condensation at mitosis. J. Cell Biol. 147: 1167-1180.
5. Arsenijevic, T., et al. 2004. A novel partner for D-type cyclins: protein kinase A-anchoring protein AKAP 95. Biochem. J. 378: 673-679.

CHROMOSOMAL LOCATION

Genetic locus: AKAP8 (human) mapping to 19p13.12; Akap8 (mouse) mapping to 17 B1.

SOURCE

AKAP 95 (F-11) is a mouse monoclonal antibody raised against amino acids 542-687 of AKAP 95 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AKAP 95 (F-11) is available conjugated to agarose (sc-390335 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390335 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390335 PE), fluorescein (sc-390335 FITC), Alexa Fluor® 488 (sc-390335 AF488), Alexa Fluor® 546 (sc-390335 AF546), Alexa Fluor® 594 (sc-390335 AF594) or Alexa Fluor® 647 (sc-390335 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390335 AF680) or Alexa Fluor® 790 (sc-390335 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

AKAP 95 (F-11) is recommended for detection of AKAP 95 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AKAP 95 siRNA (h): sc-29662, AKAP 95 siRNA (m): sc-29663, AKAP 95 shRNA Plasmid (h): sc-29662-SH, AKAP 95 shRNA Plasmid (m): sc-29663-SH, AKAP 95 shRNA (h) Lentiviral Particles: sc-29662-V and AKAP 95 shRNA (m) Lentiviral Particles: sc-29663-V.

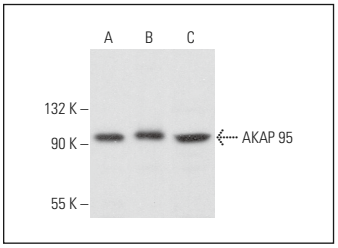
Molecular Weight of AKAP 95: 95 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, PC-3 cell lysate: sc-2220 or IMR-32 cell lysate: sc-2409.

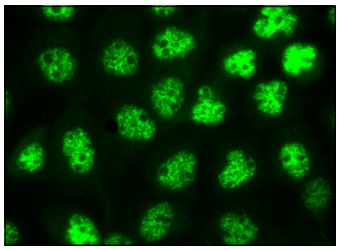
RECOMMENDED SUPPORT REAGENTS

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.

DATA



AKAP 95 (F-11): sc-390335. Western blot analysis of AKAP 95 expression in DU 145 (**A**), PC-3 (**B**) and IMR-32 (**C**) whole cell lysates.



AKAP 95 (F-11): sc-390335. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Clister, T., et al. 2019. AKAP95 Organizes a nuclear microdomain to control local cAMP for regulating nuclear PKA. Cell Chem. Biol. 26: 885-891.

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.