SANTA CRUZ BIOTECHNOLOGY, INC.

AKAP 7 (F-24): sc-130947

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 regulatory (R) subunits (RI and RII) of PKA interact with specific R-anchoring proteins designated AKAPs. AKAP 7 (A-kinase anchor protein 7), also known as AKAP18, is a 104 amino acid protein that belongs to the AKAP family. AKAP 7 is expressed in brain, heart, lung, pancreas and skeletal muscle. AKAP 7 binds PKA to the plasma membrane and permits functional coupling to the L-type calcium channel. Four isoforms exist due to alternative splicing events. It has been suggested that the γ isoform binds RI and may be responsible for positioning PKA via RI and/or RII to regulate PKA-mediated gene transcription in both somatic cells and oocytes.

REFERENCES

1. Trotter, K.W., et al. 1999. Alternative splicing regulates the subcellular localization of A-kinase anchoring protein 18 isoforms. J. Cell Biol. 147: 1481-1492.
2. Scott, J.D., et al. 2000. Coordination of cAMP signaling events through PKA anchoring. Adv. Pharmacol. 47: 175-207.
3. Edwards, A.S. and Scott, J.D. 2000. A-kinase anchoring proteins: protein kinase A and beyond. Curr. Opin. Cell Biol. 12: 217-221.
4. Klussmann, E. and Rosenthal, W. 2001. Role and identification of protein kinase A anchoring proteins in vasopressin-mediated aquaporin-2 translocation. Kidney Int. 60: 446-449.
5. Brown, R.L., et al. 2003. AKAP 7γ is a nuclear RI-binding AKAP. Biochem. Biophys. Res. Commun. 306: 394-401.
6. Henn, V., et al. 2004. Identifi-cation of a novel A-kinase anchoring protein 18 isoform and evidence for its role in the vasopressin-induced aquaporin-2 shuttle in renal principal cells. J. Biol. Chem. 279: 26654-26665.

CHROMOSOMAL LOCATION

Genetic locus: AKAP7 (human) mapping to 6q23.2.

SOURCE

AKAP 7 (F-24) is a Protein A purified rabbit polyclonal antibody raised against synthetic AKAP 7 peptide of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

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 or our catalog for detailed protocols and support products.

APPLICATIONS

AKAP 7 (F-24) is recommended for detection of AKAP 7 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AKAP 7 siRNA (h): sc-95270, AKAP 7 shRNA Plasmid (h): sc-95270-SH and AKAP 7 shRNA (h) Lentiviral Particles: sc-95270-V.

Molecular Weight of AKAP 7α: 15 kDa.

Molecular Weight of AKAP 7β: 17 kDa.

Molecular Weight of AKAP 7γ: 37 kDa.

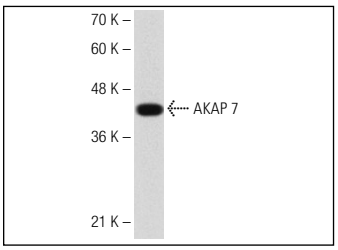
Molecular Weight of AKAP 7δ: 50 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, IMR-32 cell lysate: sc-2409 or H4 cell lysate: sc-2408.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



AKAP 7 (F-24): sc-130947. Western blot analysis of AKAP 7 expression in Hep G2 whole cell lysate.

RESEARCH USE

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