SANTA CRUZ BIOTECHNOLOGY, INC.

AKAP 10 (C-8): sc-271074

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 (A-kinase anchoring proteins). AKAP 10 (A kinase anchor protein 10), also known as PRKA10 or D-AKAP2 (dual-specific A kinase-anchoring protein 2), is a 662 amino acid mitochondrial membrane protein that belongs to the AKAP family. AKAP 10 is a dual specificity protein that binds to both type I and type II regulatory subunits of PKA and anchors them to the plasma membrane or the mitochondria. When anchored to the mitochondria, PKA can phosphorylate and, thus, inactivate the proapoptotic protein Bad. This suggests that AKAP 10 indirectly regulates Bad-induced apoptosis by mediating the mitochondrial attachment of PKA. Additionally, AKAP 10 may facilitate G protein-coupled signal transduction and could act as an adaptor in the assembly of multiprotein complexes.

REFERENCES

1. Huang, L.J., et al. 1997. D-AKAP2, a novel protein kinase A anchoring protein with a putative RGS domain. Proc. Natl. Acad. Sci. USA 94: 11184-11189.
2. Wang, L., et al. 2001. Cloning and mitochondrial localization of full-length D-AKAP2, a protein kinase A anchoring protein. Proc. Natl. Acad. Sci. USA 98: 3220-3225.
3. Perkins, G.A., et al. 2001. PKA, PKC, and AKAP localization in and around the neuromuscular junction. BMC Neurosci. 2: 17.
4. Hamuro, Y., et al. 2002. Domain organization of D-AKAP2 revealed by enhanced deuterium exchange-mass spectrometry (DXMS). J. Mol. Biol. 321: 703-714.

CHROMOSOMAL LOCATION

Genetic locus: AKAP10 (human) mapping to 17p11.2; Akap10 (mouse) mapping to 11 B2.

SOURCE

AKAP 10 (C-8) is a mouse monoclonal antibody raised against amino acids 508-662 mapping at the C-terminus of AKAP 10 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AKAP 10 (C-8) is available conjugated to agarose (sc-271074 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271074 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271074 PE), fluorescein (sc-271074 FITC), Alexa Fluor® 488 (sc-271074 AF488), Alexa Fluor® 546 (sc-271074 AF546), Alexa Fluor® 594 (sc-271074 AF594) or Alexa Fluor® 647 (sc-271074 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271074 AF680) or Alexa Fluor® 790 (sc-271074 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

AKAP 10 (C-8) is recommended for detection of AKAP 10 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 10 siRNA (h): sc-93998, AKAP 10 siRNA (m): sc-140974, AKAP 10 shRNA Plasmid (h): sc-93998-SH, AKAP 10 shRNA Plasmid (m): sc-140974-SH, AKAP 10 shRNA (h) Lentiviral Particles: sc-93998-V and AKAP 10 shRNA (m) Lentiviral Particles: sc-140974-V.

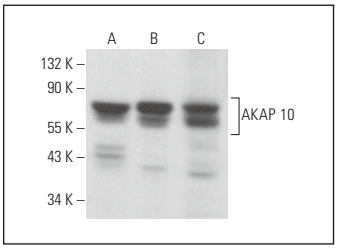
Molecular Weight of AKAP 10: 74 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, M1 whole cell lysate: sc-364782 or Caki-1 cell lysate: sc-2224.

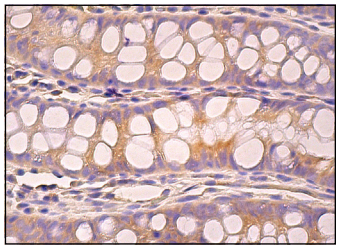
RECOMMENDED SUPPORT REAGENTS

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 10 (C-8): sc-271074. Western blot analysis of AKAP 10 expression in NIH/3T3 (**A**), M1 (**B**) and Caki-1 (**C**) whole cell lysates.



AKAP 10 (C-8): sc-271074. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells.

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.