SANTA CRUZ BIOTECHNOLOGY, INC.

# AKAP 10 (h): 293T Lysate: sc-113119

## 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


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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.
5. Gisler, S.M., et al. 2003. PDZK1: II. an anchoring site for the PKA-binding protein D-AKAP2 in renal proximal tubular cells. Kidney Int. 64: 1746-1754.
6. Burns, L.L., et al. 2003. Isoform specific differences in binding of a dual-specificity A-kinase anchoring protein to type I and type II regulatory subunits of PKA. Biochemistry 42: 5754-5763.
7. Kammerer, S., et al. 2003. Amino acid variant in the kinase binding domain of dual-specific A-kinase-anchoring protein 2: a disease susceptibility polymorphism. Proc. Natl. Acad. Sci. USA 100: 4066-4071.
8. Burns-Hamuro, L.L., et al. 2004. Identification and functional analysis of dual-specific A-kinase-anchoring protein-2. Meth. Enzymol. 390: 354-374.
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## CHROMOSOMAL LOCATION

Genetic locus: AKAP10 (human) mapping to 17p11.2.

## RESEARCH USE

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

## PRODUCT

AKAP 10 (h): 293T Lysate represents a lysate of human AKAP 10 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

AKAP 10 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive AKAP 10 antibodies. Recommended use: 10-20 µl per lane.

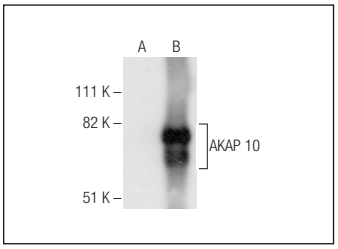
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-tranfected 293T cells.

AKAP 10 (C-8): sc-271074 is recommended as a positive control antibody for Western Blot analysis of enhanced human AKAP 10 expression in AKAP 10 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

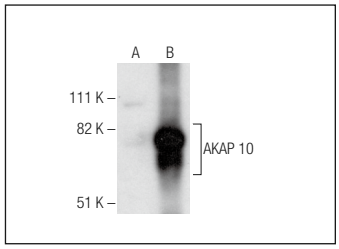
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA




AKAP 10 (C-8): sc-271074. Western blot analysis of AKAP 10 expression in non-transfected: sc-117752 (**A**) and human AKAP 10 transfected: sc-113119 (**B**) 293T whole cell lysates.




AKAP 10 (51): sc-136512. Western blot analysis of AKAP 10 expression in non-transfected: sc-117752 (**A**) and human AKAP 10 transfected: sc-113119 (**B**) 293T whole cell lysates.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

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