SANTA CRUZ BIOTECHNOLOGY, INC.

AKAP 14 (P-13): sc-169938

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 14 (protein kinase A anchoring protein 14), also known as AKAP28 (A-kinase anchoring protein 28), is a 197 amino acid cytoplasmic protein that binds to the type II regulatory subunits of PKA to anchor it to discrete locations within the cell. AKAP 14 is expressed in axoneme-based tissue organelles including trachea, testis and airway cilia, with lower expression levels also found in adult and fetal lung. Due to alternative splicing events, three AKAP 14 isoforms exist.

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. Perkins, G.A., et al. 2001. PKA, PKC, and AKAP localization in and around the neuromuscular junction. BMC Neurosci. 2: 17.
3. Feliciello, A., et al. 2001. The biological functions of A-kinase anchor proteins. J. Mol. Biol. 308: 99-114.
4. Kultgen, P.L., et al. 2002. Characterization of an A-kinase anchoring protein in human ciliary axonemes. Mol. Biol. Cell 13: 4156-4166.
5. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 300462. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Dell'Acqua, M.L., et al. 2006. Regulation of neuronal PKA signaling through AKAP targeting dynamics. Eur. J. Cell Biol. 85: 627-633.

CHROMOSOMAL LOCATION

Genetic locus: Akap14 (mouse) mapping to X A3.3.

SOURCE

AKAP 14 (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of AKAP 14 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-169938 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

AKAP 14 (P-13) is recommended for detection of AKAP 14 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other AKAP family members.

Suitable for use as control antibody for AKAP 14 siRNA (m): sc-140975, AKAP 14 shRNA Plasmid (m): sc-140975-SH and AKAP 14 shRNA (m) Lentiviral Particles: sc-140975-V.

Molecular Weight of AKAP 14: 23 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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