

# AKAP 2 (T-13): sc-160004

## 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 2 (protein kinase A-anchoring protein 2), also known as PALM2, PRKA2 or AKAPKL, is a 859 amino acid protein that is expressed as six alternatively spliced isoforms found in heart, fibroblasts, skeletal muscle, epithelial cells of kidney and lung, with moderate levels found in cerebellum and thymus. AKAP 2 associates with F-actin and accumulates in regions of the cortical cytoskeleton. The gene encoding AKAP 2 maps to human chromosome 9 and mouse chromosome 4.

## REFERENCES

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- Nagase, T., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 6: 63-70.
- Hu, B., et al. 2001. The paralemmin protein family: identification of paralemmin-2, an isoform differentially spliced to AKAP 2/AKAP-KL, and of palmelphin, a more distant cytosolic relative. *Biochem. Biophys. Res. Commun.* 285: 1369-1376.
- 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.
- Alto, N.M., et al. 2003. Bioinformatic design of A-kinase anchoring protein-*in silico*: a potent and selective peptide antagonist of type II protein kinase A anchoring. *Proc. Natl. Acad. Sci. USA* 100: 4445-4450.

## CHROMOSOMAL LOCATION

Genetic locus: AKAP2/PALM2-AKAP2 (human) mapping to 9q31.3; Akap2 (mouse) mapping to 4 B3, Palm2-Akap2 (mouse) mapping to 4.

## SOURCE

AKAP 2 (T-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of AKAP 2 of human 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-160004 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

AKAP 2 (T-13) is recommended for detection of AKAP 2 isoforms A and B of human origin, AF064781 of mouse origin and the corresponding rat homolog 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 2 siRNA (h): sc-92904, AKAP 2 siRNA (m): sc-140976, AKAP 2 shRNA Plasmid (h): sc-92904-SH, AKAP 2 shRNA Plasmid (m): sc-140976-SH, AKAP 2 shRNA (h) Lentiviral Particles: sc-92904-V and AKAP 2 shRNA (m) Lentiviral Particles: sc-140976-V.

Molecular Weight of AKAP 2: 122 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.