

AKAP 13 (ZX-18): sc-81902

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 R subunit (RII) of PKA interacts with specific RII-anchoring proteins. The family of RII-anchoring proteins has been designated A-kinase anchoring proteins (AKAP). AKAP 13, also known as Brx (breast cancer nuclear receptor-binding auxiliary protein), Lbc (lymphoid blast crisis oncogene), HA-3 or Ht31 (human thyroid-anchoring protein 31), functions as a cAMP-dependent scaffold anchor for PKA and also has Rho-GEF activity. It is known to regulate TLR2 signaling, NF κ B activation, protein kinase D activation and participate in Actin stress fiber formation. Seven isoforms exist for AKAP 13 and, depending on the isoform, it localizes to the cytoplasm, nucleus or cell membrane.

REFERENCES

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2. Lewis, T.E., et al. 2005. Tissue transglutaminase interacts with protein kinase A anchor protein 13 in prostate cancer. *Urol. Oncol.* 23: 407-412.
3. Kino, T., et al. 2006. Rho family guanine nucleotide exchange factor Brx couples extracellular signals to the glucocorticoid signaling system. *J. Biol. Chem.* 281: 9118-9126.
4. Hearn-Stokes, R., et al. 2006. Expression of the proto-oncoprotein breast cancer nuclear receptor auxiliary factor (Brx) is altered in eutopic endometrium of women with endometriosis. *Fertil. Steril.* 85: 63-70.
5. Sterpetti, P., et al. 2006. Cell proliferation and drug resistance in hepatocellular carcinoma are modulated by Rho GTPase signals. *Am. J. Physiol. Gastrointest. Liver Physiol.* 290: 624-632.
6. Wirtenberger, M., et al. 2006. Association of genetic variants in the Rho guanine nucleotide exchange factor AKAP 13 with familial breast cancer. *Carcinogenesis* 27: 593-598.
7. Shibolet, O., et al. 2007. AKAP 13, a RhoA GTPase-specific guanine exchange factor, is a novel regulator of TLR2 signaling. *J. Biol. Chem.* 282: 35308-35317.
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CHROMOSOMAL LOCATION

Genetic locus: AKAP13 (human) mapping to 15q25.3.

SOURCE

AKAP 13 (ZX-18) is a mouse monoclonal antibody raised against recombinant AKAP 13 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AKAP 13 (ZX-18) is recommended for detection of AKAP 13 of human origin by 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).

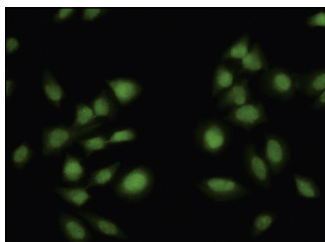
Suitable for use as control antibody for AKAP 13 siRNA (h): sc-41721, AKAP 13 shRNA Plasmid (h): sc-41721-SH and AKAP 13 shRNA (h) Lentiviral Particles: sc-41721-V.

Molecular Weight of AKAP 13: 309 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



AKAP 13 (ZX-18): sc-81902. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Neumeister, V.M., et al. 2012. Quantitative assessment of effect of preanalytic cold ischemic time on protein expression in breast cancer tissues. *J. Natl. Cancer Inst.* 104: 1815-1824.

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.

PROTOCOLS

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