

AKAP 13 (h): 293T Lysate: sc-372397

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

1. Baisamy, L., Jurisch, N. and Diviani, D. 2005. Leucine zipper-mediated homo-oligomerization regulates the Rho-GEF activity of AKAP-Lbc. *J. Biol. Chem.* 280: 15405-15412.
2. Lewis, T.E., Milam, T.D., Klingler, D.W., Rao, P.S., Jaggi, M., Smith, D.J., Hemstreet, G.P. and Balaji, K.C. 2005. Tissue transglutaminase interacts with protein kinase A anchor protein 13 in prostate cancer. *Urol. Oncol.* 23: 407-412.
3. Kino, T., Souvatzoglou, E., Charmandari, E., Ichijo, T., Driggers, P., Mayers, C., Alatsianos, A., Manoli, I., Westphal, H., Chrousos, G.P. and Segars, J.H. 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., Mayers, C., Zahn, C., Cruess, D., Gustafsson, J.A., Segars, J. and Nieman, L. 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., Marucci, L., Candelaresi, C., Toksoz, D., Alpini, G., Ugili, L., Baroni, G.S., Macarri, G. and Benedetti, A. 2006. Cell proliferation and drug resistance in hepatocellular carcinoma are modulated by Rho GTPase signals. *Am. J. Physiol. Gastrointest. Liver Physiol.* 290: G624-G632.
6. Wirtenberger, M., Tchatchou, S., Hemminki, K., Klaes, R., Schmutzler, R.K., Bermejo, J.L., Chen, B., Wappenschmidt, B., Meindl, A., Bartram, C.R. and Burwinkel, B. 2006. Association of genetic variants in the Rho guanine nucleotide exchange factor AKAP13 with familial breast cancer. *Carcinogenesis* 27: 593-598.
7. Shibolet, O., Giallourakis, C., Rosenberg, I., Mueller, T., Xavier, R.J. and Podolsky, D.K. 2007. AKAP13, a RhoA GTPase-specific guanine exchange factor, is a novel regulator of TLR2 signaling. *J. Biol. Chem.* 282: 35308-35317.
8. Kamasani, U., Duhadaway, J.B., Alberts, A.S. and Prendergast, G.C. 2007. mDia function is critical for the cell suicide program triggered by farnesyl transferase inhibition. *Cancer Biol. Ther.* 6: 1422-1427.

CHROMOSOMAL LOCATION

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

PRODUCT

AKAP 13 (h): 293T Lysate represents a lysate of human AKAP 13 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

AKAP 13 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive AKAP 13 antibodies. Recommended use: 10-20 μ l per lane.

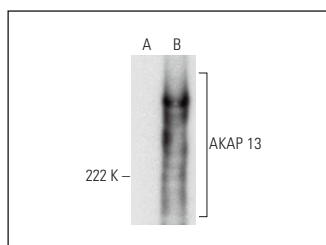
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

AKAP 13 (A-1): sc-393557 is recommended as a positive control antibody for Western Blot analysis of enhanced human AKAP 13 expression in AKAP 13 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 13 (A-1): sc-393557. Western blot analysis of AKAP 13 expression in non-transfected: sc-117752 (A) and human AKAP 13 transfected: sc-372397 (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.

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.