

AKAP 13 (A-1): sc-393557



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 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., et al. 2005. Leucine zipper-mediated homo-oligomerization regulates the Rho-GEF activity of AKAP-Lbc. *J. Biol. Chem.* 280: 15405-15412.
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.

CHROMOSOMAL LOCATION

Genetic locus: AKAP13 (human) mapping to 15q25.3; Akap13 (mouse) mapping to 7 D2.

SOURCE

AKAP 13 (A-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2731-2749 within an internal region of AKAP 13 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AKAP 13 (A-1) is available conjugated to agarose (sc-393557 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393557 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393557 PE), fluorescein (sc-393557 FITC), Alexa Fluor[®] 488 (sc-393557 AF488), Alexa Fluor[®] 546 (sc-393557 AF546), Alexa Fluor[®] 594 (sc-393557 AF594) or Alexa Fluor[®] 647 (sc-393557 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-393557 AF680) or Alexa Fluor[®] 790 (sc-393557 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393557 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

AKAP 13 (A-1) is recommended for detection of AKAP 13 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AKAP 13 (A-1) is also recommended for detection of AKAP 13 in additional species, including canine.

Suitable for use as control antibody for AKAP 13 siRNA (h): sc-41721, AKAP 13 siRNA (m): sc-41722, AKAP 13 shRNA Plasmid (h): sc-41721-SH, AKAP 13 shRNA Plasmid (m): sc-41722-SH, AKAP 13 shRNA (h) Lentiviral Particles: sc-41721-V and AKAP 13 shRNA (m) Lentiviral Particles: sc-41722-V.

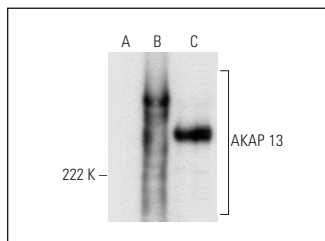
Molecular Weight of AKAP 13: 309 kDa.

Positive Controls: AKAP 13 (h): 293T Lysate: sc-372397 or human heart extract: sc-363763.

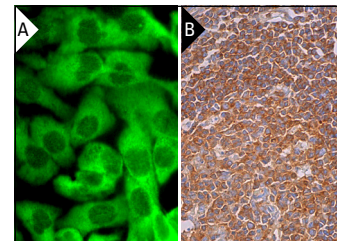
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

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 and human heart tissue extract (C).



AKAP 13 (A-1): sc-393557. Immunofluorescence staining of formalin-fixed A-431 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal center and cells in non-germinal center (B).

RESEARCH USE

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