10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

AKAP13 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8584b

Product Information

Application	WB, E
Primary Accession	Q12802
Reactivity	Human
Predicted	Mouse, Rat, Canine, Rabbit
Host	Mouse
Clonality	monoclonal
Isotype	IgG1,k
Clone Names	1742CT411.87.24
Calculated MW	307550

Additional Information

Gene ID	11214
Other Names	A-kinase anchor protein 13, AKAP-13, AKAP-Lbc, Breast cancer nuclear receptor-binding auxiliary protein, Guanine nucleotide exchange factor Lbc, Human thyroid-anchoring protein 31, Lymphoid blast crisis oncogene, LBC oncogene, Non-oncogenic Rho GTPase-specific GTP exchange factor, Protein kinase A-anchoring protein 13, PRKA13, p47, AKAP13, BRX, HT31, LBC
Target/Specificity	This AKAP13 antibody is generated from a mouse immunized with a KLH conjugated synthetic peptide between 18-170 amino acids from human AKAP13.
Dilution	WB~~1:8000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	AKAP13 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AKAP13
Function	Scaffold protein that plays an important role in assembling signaling

	complexes downstream of several types of G protein-coupled receptors. Activates RHOA in response to signaling via G protein- coupled receptors via its function as Rho guanine nucleotide exchange factor (PubMed:11546812, PubMed:15229649, PubMed:23090968, PubMed:24993829, PubMed:25186459). May also activate other Rho family members (PubMed:11546812). Part of a kinase signaling complex that links ADRA1A and ADRA1B adrenergic receptor signaling to the activation of downstream p38 MAP kinases, such as MAPK11 and MAPK14 (PubMed:17537920, PubMed:21224381, PubMed:23716597). Part of a signaling complex that links ADRA1B signaling to the activation of RHOA and IKBKB/IKKB, leading to increased NF-kappa-B transcriptional activity (PubMed:23090968). Part of a RHOA-dependent signaling cascade that mediates responses to lysophosphatidic acid (LPA), a signaling molecule that activates G protein-coupled receptors and potentiates transcriptional activation of the glucocorticoid receptor NR3C1 (PubMed:16469733). Part of a signaling cascade that stimulates MEF2C- dependent gene expression in response to lysophosphatidic acid (LPA) (By similarity). Part of a signaling pathway that activates MAPK11 and/or MAPK14 and leads to increased transcription activation of the estrogen receptors ESR1 and ESR2 (PubMed:11579095, PubMed:9627117). Part of a signaling cascade that links cAMP and EGFR signaling to BRAF signaling and to PKA-mediated phosphorylation of KSR1, leading to the activation of downstream MAP kinases, such as MAPK1 or MAPK3 (PubMed:21102438). Functions as a scaffold protein that anchors cAMP- dependent protein kinase (PKA) and PRKD1. This promotes activation of PRKD1, leading to increased phosphorylation of HDAC5 and ultimately cardiomyocyte hypertrophy (By similarity). Has no guanine nucleotide exchange activity on CDC42, Ras or Rac (PubMed:11546812). Required for normal embryonic heart development, and in particular for normal sarcomere formation in the developing cardiomyocytes (By similarity). Plays a role in cardiomyocyte growth and cardiac hypertrophy in response to activation of the beta-adrenergic receptor by phenylephrine or isoproterenol (PubMed:17537920, PubMed:23090968). Required for normal adaptive cardiac hypertrophy in response to pressure overload (PubMed:23716597). Plays a role in osteogenesis (By similarity).
Cellular Location	Cytoplasm, cytosol. Cytoplasm Cytoplasm, cell cortex. Nucleus. Membrane; Peripheral membrane protein Note=Colocalizes with the actin cytoskeleton at the cell cortex
Tissue Location	Detected in mammary gland (PubMed:9627117). Detected in heart (at protein level) (PubMed:11546812). Expressed as a 5.3 kb transcript in hematopoietic cells, skeletal muscle, lung, heart, estrogen-responsive reproductive tissues, including breast ductal epithelium. Also found in testis and breast cancer cell lines Predominantly expressed as a 10 kb transcript in the heart and at lower levels in the lung, placenta, kidney, pancreas, skeletal muscle and liver. Transcripts of between 6-9 kb are also expressed in myeloid and lymphoid lineages, a variety of epithelial tissues, and in skeletal muscle.

Background

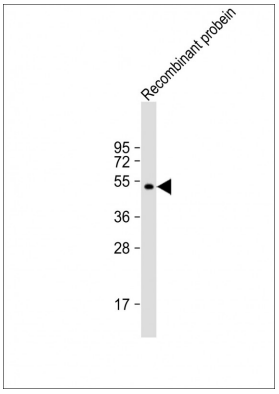
Anchors cAMP-dependent protein kinase (PKA) and acts as an adapter protein to selectively couple G alpha-13 and Rho. Augments gene activation by the estrogen receptor in an element- specific and ligand-dependent manner. Activates estrogen receptor beta by a p38 MAPK-dependent pathway. Stimulates exchange activity on Rho proteins in vitro, but not on CDC42, Ras or Rac and may bind calcium ions.

References

Klussmann E.,et al.FEBS Lett. 507:264-268(2001).

Diviani D.,et al.J. Biol. Chem. 276:44247-44257(2001).
Miyamoto M.,et al.Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.
Rubino D.,et al.Oncogene 16:2513-2526(1998).
Sterpetti P.,et al.Mol. Cell. Biol. 19:1334-1345(1999).

Images



Anti-AKAP13 Antibody at 1:8000 dilution + Recombinant probein Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 308 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.