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KANK1 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8596b

Product Information

Application	WB, IHC-P, E
Primary Accession	Q14678
Reactivity	Human
Host	Mouse
Clonality	monoclonal
Isotype	IgG1,k
Clone Names	1773CT634.49.61
Calculated MW	147289

Additional Information

Gene ID	23189
Other Names	KN motif and ankyrin repeat domain-containing protein 1, Ankyrin repeat domain-containing protein 15, Kidney ankyrin repeat-containing protein, KANK1, ANKRD15, KANK, KIAA0172
Target/Specificity	This KANK1 antibody is generated from a mouse immunized with a recombinant protein of human KANK1.
Dilution	WB~~1:2000 IHC-P~~1:100~500 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	KANK1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KANK1 (HGNC:19309)
Function	Adapter protein that links structural and signaling protein complexes positioned to guide microtubule and actin cytoskeleton dynamics during cell morphogenesis (PubMed:22084092, PubMed:24120883). At focal adhesions (FAs) rims, organizes cortical microtubule stabilizing complexes (CMSCs) and directly interacts with major FA component TLN1, forming macromolecular

	assemblies positioned to control microtubule-actin crosstalk at the cell edge (PubMed:24120883, PubMed:27410476). Recruits KIF21A in CMSCs at axonal growth cones and regulates axon guidance by suppressing microtubule growth without inducing microtubule disassembly once it reaches the cell cortex (PubMed:24120883). Interacts with ARFGEF1 and participates in establishing microtubule-organizing center (MTOC) orientation and directed cell movement in wound healing (PubMed:22084092). Regulates actin stress fiber formation and cell migration by inhibiting RHOA activation in response to growth factors; this function involves phosphorylation through PI3K/Akt signaling and may depend on the competitive interaction with 14-3-3 adapter proteins to sequester them from active complexes (PubMed:18458160, PubMed:25961457). Inhibits the formation of lamellipodia but not of filopodia; this function may depend on the competitive interaction with BAIAP2 to block its association with activated RAC1. Inhibits fibronectin-mediated cell spreading; this function is partially mediated by BAIAP2 (PubMed:19171758). In the nucleus, is involved in beta-catenin-dependent activation of transcription (PubMed:16968744). During cell division, may regulate DAAM1-dependent RHOA activation that signals centrosome maturation and chromosomal segregation. May also be involved in contractile ring formation during cytokinesis (By similarity). Potential tumor suppressor for renal cell carcinoma (Probable).
Cellular Location	Cytoplasm, cell cortex. Cell projection, ruffle membrane; Peripheral membrane protein. Cytoplasm. Nucleus. Note=Shuttles between the cytoplasm and nucleus (PubMed:16968744). Colocalizes with CMSC components at focal adhesion rims. Colocalizes with KIF21A in membrane ruffles (PubMed:19559006, PubMed:27410476). Colocalizes with RHOA at the contractile ring. Colocalizes with RHOA and DAAM1 around centrosomes {ECO:0000250|UniProtKB:E9Q238, ECO:0000269|PubMed:16968744, ECO:0000269|PubMed:19559006, ECO:0000269|PubMed:27410476} [Isoform 2]: Cytoplasm. Nucleus Note=Shuttles between the cytoplasm and nucleus
Tissue Location	Widely expressed. Isoform 1 is predominantly expressed in heart and kidney. Isoform 2 probably is widely expressed at basic levels.

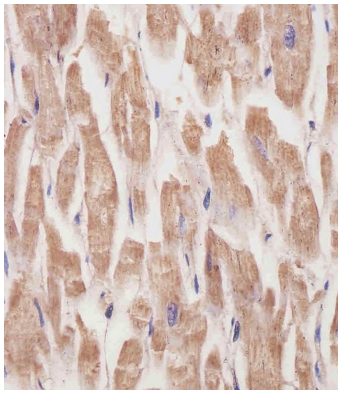
Background

Involved in the control of cytoskeleton formation by regulating actin polymerization. Inhibits actin fiber formation and cell migration. Inhibits RhoA activity; the function involves phosphorylation through PI3K/Akt signaling and may depend on the competetive interaction with 14-3-3 adapter proteins to sequester them from active complexes. Inhibits the formation of lamellipodia but not of filopodia; the function may depend on the competetive interaction with BAIAP2 to block its association with activated RAC1. Inhibits fibronectin-mediated cell spreading; the function is partially mediated by BAIAP2. Inhibits neurite outgrowth. Involved in the establishment and persistence of cell polarity during directed cell movement in wound healing. In the nucleus, is involved in beta-catenin-dependent activation of transcription. Potential tumor suppressor for renal cell carcinoma.

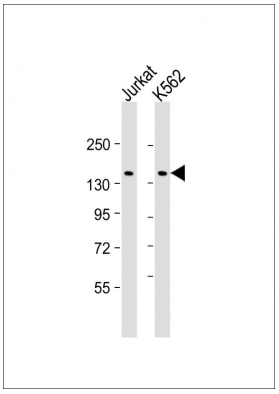
References

Nagase T.,et al.DNA Res. 3:17-24(1996).
Humphray S.J.,et al.Nature 429:369-374(2004).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Sarkar S.,et al.J. Biol. Chem. 277:36585-36591(2002).
Wang Y.,et al.Biochem. Biophys. Res. Commun. 330:1247-1253(2005).

Images



AM8596b staining KANK1 in human heart tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



All lanes : Anti-KANK1 Antibody at 1:2000 dilution Lane 1: Jurkat whole cell lysate Lane 2: K562 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 147 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- Upregulation of the Kank1 gene inhibits human lung cancer progression in vitro and in vivo.