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KANK1 Antibody (N-Terminus)
Rabbit Polyclonal Antibody
Catalog # ALS16019

Specification

KANK1 Antibody (N-Terminus) - Product Information

Application	**IF, IHC**
Primary Accession	Q14678
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**147kDa KDa**

KANK1 Antibody (N-Terminus) - 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
Two alternatively spliced transcript variants encoding different isoforms have been identified. The lower molecular weight band seen in the immunoblot is thought to be non-specific.

Reconstitution & Storage
Long term: -20°C; Short term: +4°C. Avoid repeat freeze-thaw cycles.

Precautions
KANK1 Antibody (N-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

KANK1 Antibody (N-Terminus) - 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:<a

href="http://www.uniprot.org/citations/24120883" target="_blank">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.

KANK1 Antibody (N-Terminus) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KANK1 Antibody (N-Terminus) - Images

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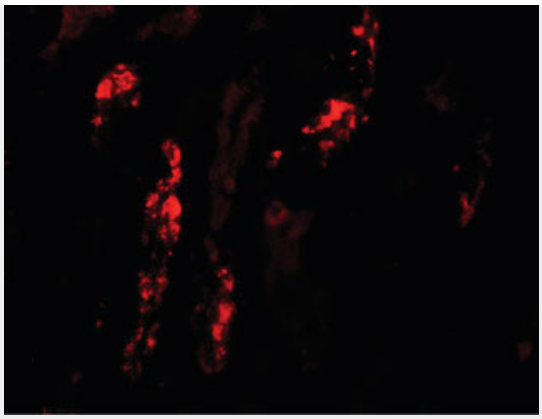
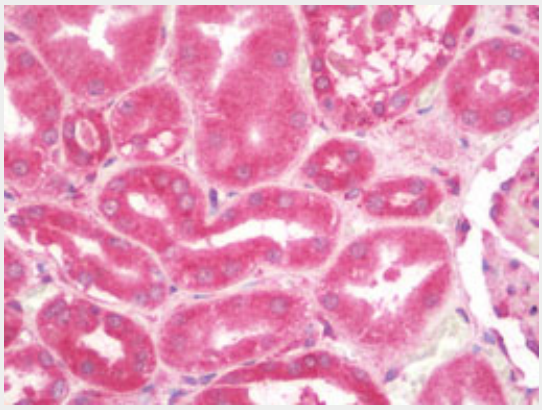


Immunofluorescence of KANK1 in human kidney tissue with KANK1 antibody at 20 ug/ml.



Anti-KANK1 antibody IHC staining of human kidney.

KANK1 Antibody (N-Terminus) - 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.

KANK1 Antibody (N-Terminus) - References

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Humphray S.J.,et al.Nature 429:369-374(2004).
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Sarkar S.,et al.J. Biol. Chem. 277:36585-36591(2002).
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