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# KANK1 Antibody

Catalog # ASC11646

## Product Information

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| **Application** | WB, IF, E, IHC-P |
| **Primary Accession** | Q14678 |
| **Other Accession** | NP_055973, 64464726 |
| **Reactivity** | Human, Mouse |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Calculated MW** | 147289 |
| **Concentration (mg/ml)** | 1 mg/mL |
| **Conjugate** | Unconjugated |
| **Application Notes** | KANK1 Antibody can be used for detection of KANK1 by Western blot at 1 g/mL. |

## Additional Information

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| **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** | KANK1; 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** | KANK1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. |
| **Precautions** | KANK1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **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 |

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| | 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

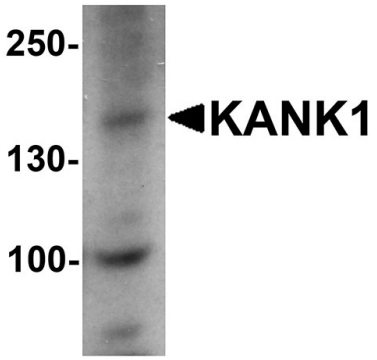
KANK1 Antibody: Ankyrins are membrane adaptor molecules that play important roles in the control of cytoskeleton formation by regulating actin polymerization. KANK1 (KN motif and ankyrin repeat domain-containing protein 1), also known as ANKRD15, is a 1,352 amino acid protein that contains at least 12 exons and 5 ANK repeats. It binds to beta-catenin and regulates its subcellular distribution. KANK1 is ubiquitously expressed and localizes to cytoplasm. It may function as a tumor suppressor for renal cell carcinoma. Mutations in this gene cause cerebral palsy spastic quadriplegic type 2, a central nervous system development disorder.

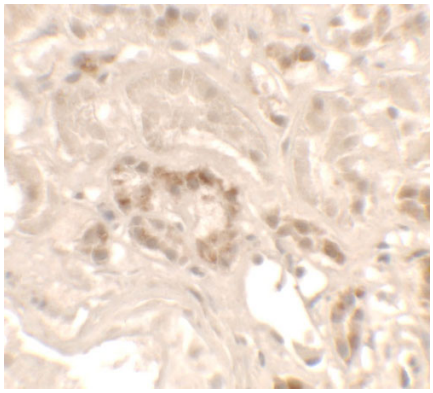
## References


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Roy BC, Kakinuma N, Kiyama R. Kank attenuates actin remodeling by preventing interaction between IRSp53 and Rac1. J. Cell Biol. 2009; 184:253-67.
Sarkar S, Roy BC, Hatano N, et al. A novel ankyrin repeat-containing gene (Kank) located at 9p24 is a growth suppressor of renal cell carcinoma. J. Biol. Chem. 2002; 277:36585-91.
Lerer I, Sagi M, Meiner V, et al. Deletion of the ANKRD15 gene at 9p24.3 causes parent-of-origin-dependent inheritance of familial cerebral palsy. Hum. Mol. Genet. 2005; 14: 3911-20

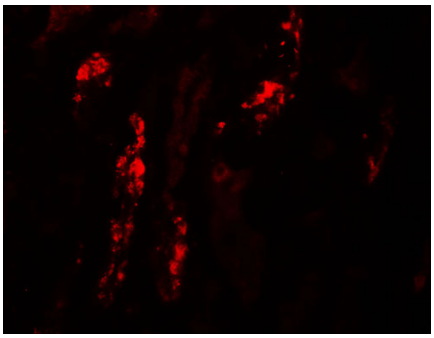

## Images

Western blot analysis of KANK1 in 3T3 cell lysate with KANK1 antibody at 1 µg/mL.



Immunohistochemistry of KANK1 in human kidney tissue with KANK1 antibody at 2.5 µg/ml.



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

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