

KANK1 (V-15): sc-162528

BACKGROUND

KANK1 (KN motif and ankyrin repeat domains 1), also known as ANKRD15, is a 1,352 amino acid protein containing 5 ANK domains. KANK1 interacts with 14-3-3, regulated by Insulin and EGF and mediated through phosphorylation of Kank by Akt, which inhibits insulin-induced cell migration as well as Insulin and active Akt-dependent activation of RhoA. KANK1 also negatively regulates the formation of actin stress fibers through inhibition of RhoA activity. KANK1 also interacts with IRSp53, inhibiting the binding of IRSp53 with active Rac1 which in turn inhibits the development of lamellipodia but not filopodia. KANK1 also regulates cell polarity during directed migration in wound healing. KANK1 is also thought to inhibit fibronectin-mediated cell spreading and neurite outgrowth. Mutations in the KANK1 gene results in CPSQ2 (cerebral palsy, spastic quadriplegic 2), a non-progressive disorder of movement and/or posture resulting from defects in the developing nervous system.

REFERENCES

1. Wang, Y., et al. 2005. Alternative splicing of the human Kank gene produces two types of Kank protein. *Biochem. Biophys. Res. Commun.* 330: 1247-1253.
2. Roy, B.C., et al. 2005. Pathological characterization of Kank in renal cell carcinoma. *Exp. Mol. Pathol.* 78: 41-48.
3. Wang, Y., et al. 2006. Nucleo-cytoplasmic shuttling of human Kank protein accompanies intracellular translocation of β -catenin. *J. Cell Sci.* 119: 4002-4010.
4. Kakinuma, N., et al. 2008. Kank regulates RhoA-dependent formation of actin stress fibers and cell migration via 14-3-3 in PI3K-Akt signaling. *J. Cell Biol.* 181: 537-549.
5. Roy, B.C., et al. 2009. Kank attenuates actin remodeling by preventing interaction between IRSp53 and Rac1. *J. Cell Biol.* 184: 253-267.
6. Medves, S., et al. 2010. KANK1, a candidate tumor suppressor gene, is fused to PDGFRB in an imatinib-responsive myeloid neoplasm with severe thrombocytopenia. *Leukemia* 24: 1052-1055.
7. Li, C.C., et al. 2011. Effects of brefeldin A-inhibited guanine nucleotide-exchange (BIG) 1 and KANK1 proteins on cell polarity and directed migration during wound healing. *Proc. Natl. Acad. Sci. USA* 108: 19228-19233.
8. Vanzo, R.J., et al. 2013. Familial KANK1 deletion that does not follow expected imprinting pattern. *Eur. J. Med. Genet.* 56: 256-259.
9. Guo, X., et al. 2014. Upregulation of the Kank1 gene-induced brain glioma apoptosis and blockade of the cell cycle in G₀/G₁ phase. *Int. J. Oncol.* 44: 797-804.

CHROMOSOMAL LOCATION

Genetic locus: KANK1 (human) mapping to 9p24.3; Kank1 (mouse) mapping to 19 B.

SOURCE

KANK1 (V-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KANK1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-162528 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KANK1 (V-15) is recommended for detection of KANK1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for KANK1 siRNA (h): sc-92843, KANK1 siRNA (m): sc-141079, KANK1 shRNA Plasmid (h): sc-92843-SH, KANK1 shRNA Plasmid (m): sc-141079-SH, KANK1 shRNA (h) Lentiviral Particles: sc-92843-V and KANK1 shRNA (m) Lentiviral Particles: sc-141079-V.

Molecular Weight of KANK1: 130 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.