

CNK1 (46): sc-135870

BACKGROUND

CNK1 (connector enhancer of kinase suppressor of Ras 1), also known as KSR or CNKSR1, is a 720 amino acid cytoplasmic and membrane protein involved in the Ras-dependent signaling pathway. Ras is essential for integrating and transmitting proliferation, differentiation and survival signals elicited by membrane receptors to downstream effector pathways. Raf is part of the Ras dependent signaling pathway and is involved in the transduction of mitogenic signals from the cell membrane to the nucleus. CNK1 contains several protein-protein interaction domains and plays a key role as a tyrosine phosphorylation target in multiple receptor tyrosine kinase pathways. The C-terminal portion of CNK1 directly binds to Raf, blocking Ras- and Raf-dependent signaling when overexpressed. The N-terminal portion contains two domains that are critical for cooperation with Ras, and two CNK1 isoforms are produced due to alternative splicing events.

REFERENCES

1. Ishikawa, F., et al. 1987. Rat c-Raf oncogene activation by a rearrangement that produces a fused protein. *Mol. Cell. Biol.* 7: 1226-1232.
2. Katz, M.E. and McCormick, F. 1997. Signal transduction from multiple Ras effectors. *Curr. Opin. Genet. Dev.* 7: 75-79.
3. Therrien, M., et al. 1998. CNK, a Raf-binding multidomain protein required for Ras signaling. *Cell* 95: 343-353.
4. Bos, J.L. 1998. All in the family? New insights and questions regarding interconnectivity of Ras, Rap1 and Ral. *EMBO J.* 17: 6776-6782.

CHROMOSOMAL LOCATION

Genetic locus: CNKSR1 (human) mapping to 1p36.11.

SOURCE

CNK1 (46) is a mouse monoclonal antibody raised against amino acids 10-217 of CNK1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CNK1 (46) is recommended for detection of CNK1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CNK1 siRNA (h): sc-105220, CNK1 shRNA Plasmid (h): sc-105220-SH and CNK1 shRNA (h) Lentiviral Particles: sc-105220-V.

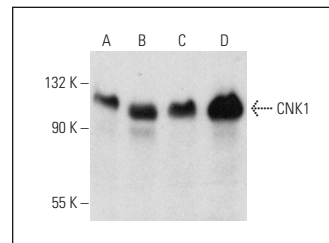
Molecular Weight of CNK1: 100 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, TT whole cell lysate: sc-364195 or PC-3 cell lysate: sc-2220.

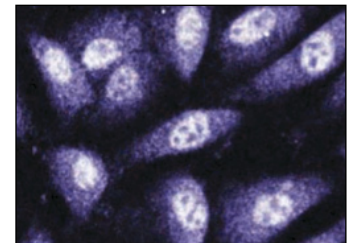
RECOMMENDED SUPPORT PRODUCTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CNK1 (46): sc-135870. Western blot analysis of CNK1 expression in ME-180 (A), PC-3 (B), TT (C) and A-431 (D) whole cell lysates.



CNK1 (46): sc-135870. Immunofluorescence staining of human endothelial cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Fischer, A., et al. 2015. Differential tyrosine phosphorylation controls the function of CNK1 as a molecular switch in signal transduction. *Biochim. Biophys. Acta* 1853: 2847-2855.
2. Fischer, A., et al. 2017. AKT-dependent phosphorylation of the SAM domain induces oligomerization and activation of the scaffold protein CNK1. *Biochim. Biophys. Acta* 1864: 89-100.
3. Quadri, H.S., et al. 2017. Expression of the scaffold connector enhancer of kinase suppressor of Ras 1 (CNKSR1) is correlated with clinical outcome in pancreatic cancer. *BMC Cancer* 17: 495.
4. Fischer, A., et al. 2017. Membrane localization of acetylated CNK1 mediates a positive feedback on Raf/ERK signaling. *Sci. Adv.* 3: e1700475.

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. Not for resale.

PROTOCOLS

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