

RCK (E-8): sc-166590

BACKGROUND

RCK, also known as DDX6 and P54, is a member of the DEAD-box RNA helicase family of proteins, all of which share common protein motifs. Found in most tissues, RCK is an unwindase that exhibits ATP-dependent RNA unwinding activity, as well as the ability to decay RNA in the 5'-3' direction. In non-malignant cells, RCK is associated with all processes of normal RNA metabolism including splicing, export and translation initiation. Mutations in the gene encoding RCK can cause the protein to be overexpressed, changing its function to that of an oncogene that positively regulates the expression of genes involved in cell growth and proliferation. It is believed that, through its unwindase activity, the main function of RCK is to downregulate mRNA expression and maintain normal transcriptional levels within the cell.

REFERENCES

1. Akao, Y., et al. 1995. The RCK/p54 candidate proto-oncogene product is a 54 kilodalton DEAD box protein differentially expressed in human and mouse tissues. *Cancer Res.* 55: 3444-3449.
2. Akiyama, K., et al. 1999. Expression of two dead box genes (DDX1 and DDX6) is independent of that of MYCN in human neuroblastoma cell lines. *Biochem. Mol. Biol. Int.* 47: 563-568.
3. Smillie, D.A. and Sommerville, J. 2002. RNA helicase p54 (DDX6) is a shuttling protein involved in nuclear assembly of stored mRNP particles. *J. Cell Sci.* 115: 395-407.
4. Akao, Y., et al. 2003. A tumour-associated DEAD-box protein, RCK/p54 exhibits RNA unwinding activity toward c-Myc RNAs *in vitro*. *Genes Cells* 8: 671-676.
5. Matsumoto, K., et al. 2005. Expression of RCK/p54, a DEAD-box RNA helicase, in gametogenesis and early embryogenesis of mice. *Dev. Dyn.* 233: 1149-1156.
6. Matsui, T., et al. 2006. Structural insight of human DEAD-box protein RCK/p54 into its substrate recognition with conformational changes. *Genes Cells* 11: 439-452.

CHROMOSOMAL LOCATION

Genetic locus: DDX6 (human) mapping to 11q23.3; Ddx6 (mouse) mapping to 9 A5.2.

SOURCE

RCK (E-8) is a mouse monoclonal antibody raised against amino acids 61-170 mapping near the N-terminus of RCK 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.

STORAGE

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

APPLICATIONS

RCK (E-8) is recommended for detection of RCK of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RCK (E-8) is also recommended for detection of RCK in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for RCK siRNA (h): sc-72246, RCK siRNA (m): sc-72247, RCK shRNA Plasmid (h): sc-72246-SH, RCK shRNA Plasmid (m): sc-72247-SH, RCK shRNA (h) Lentiviral Particles: sc-72246-V and RCK shRNA (m) Lentiviral Particles: sc-72247-V.

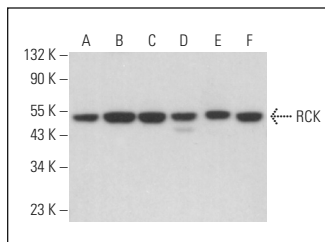
Molecular Weight of RCK: 54 kDa.

Positive Controls: IB4 whole cell lysate: sc-364780, NIH/3T3 whole cell lysate: sc-2210 or 3T3-L1 cell lysate: sc-2243.

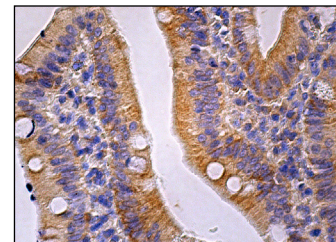
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



RCK (E-8): sc-166590. Western blot analysis of RCK expression in Hep G2 (A), HL-60 (B), NIH/3T3 (C), IB4 (D), 3T3-L1 (E) and RAW 264.7 (F) whole cell lysates.



RCK (E-8): sc-166590. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Zayat, V., et al. 2015. HAX-1: a novel p-body protein. *DNA Cell Biol.* 34: 43-54.

RESEARCH USE

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