

# RCK (YZ-14): sc-101019

## 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 un-winding 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 kDa 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/p 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 (YZ-14) is a mouse monoclonal antibody raised against recombinant RCK of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> kappa light chain in 1.0 ml 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 (YZ-14) is recommended for detection of RCK of mouse, rat and 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)], 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).

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.

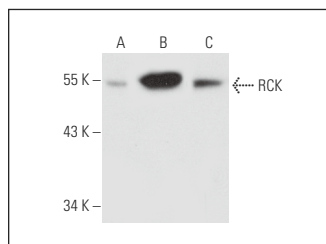
Molecular Weight of RCK: 54 kDa.

Positive Controls: RCK (h): 293T Lysate: sc-117056, CCRF-CEM cell lysate: sc-2225 or K-562 whole cell lysate: sc-2203.

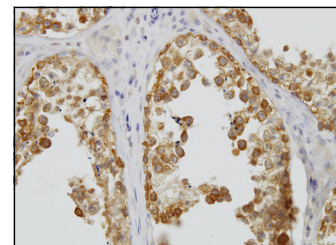
## RECOMMENDED SUPPORT REAGENTS

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 (YZ-14): sc-101019. Western blot analysis of RCK expression in non-transfected 293T: sc-117752 (A), human RCK transfected 293T: sc-117056 (B) and K-562 (C) whole cell lysates.



RCK (YZ-14): sc-101019. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human testis tissue showing cytoplasmic localization.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.