

ROD (C-14): sc-66594

BACKGROUND

ROD (rough deal), also known as KNTC1 (kinetochore-associated protein 1), is the human homolog of the *Drosophila* ROD protein and is an essential component of the mitotic cell cycle checkpoint, functioning to assemble MAD1-MAD2 and Dynein-Dynactin complexes into kinetochores. Highly expressed in the testis, ROD exhibits a dynamic pattern of localization during the cell cycle; beginning at the nucleus and cytoplasm during interphase and translocating to kinetochores and spindle fibers during anaphase. ROD interacts with ZW10 and, through this interaction, is able to associate in a stable manner with the kinetochore. ROD and ZW10 are required for proper spindle assembly and to help target microtubule motor cytoplasmic Dynein to kinetochores.

REFERENCES

1. Kress, R.E., et al. 1989. Rough deal: a gene required for proper mitotic segregation in *Drosophila*. *J. Cell Biol.* 109: 2951-2961.
2. Scaërou, F., et al. 1999. The rough deal protein is a new kinetochore component required for accurate chromosome segregation in *Drosophila*. *J. Cell Sci.* 112: 3757-3768.
3. Chan, G.K., et al. 2000. Human Zw10 and ROD are mitotic checkpoint proteins that bind to kinetochores. *Nat. Cell Biol.* 2: 944-947.
4. Scaërou, F., et al. 2001. The ZW10 and rough deal checkpoint proteins function together in a large, evolutionarily conserved complex targeted to the kinetochore. *J. Cell Sci.* 114: 3103-3114.
5. Wojcik, E., et al. 2001. Kinetochore Dynein: its dynamics and role in the transport of the rough deal checkpoint protein. *Nat. Cell Biol.* 3: 1001-1007.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607363. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Williams, B.C., ET AL. 2003. Zwilch, a new component of the ZW10/ROD complex required for kinetochore functions. *Mol. Biol. Cell* 14: 1379-1391.
8. Basto, R., et al. 2004. *In vivo* dynamics of the rough deal checkpoint protein during *Drosophila* mitosis. *Curr. Biol.* 14: 56-61.

CHROMOSOMAL LOCATION

Genetic locus: KNTC1 (human) mapping to 12q24.31; Kntc1 (mouse) mapping to 5 F.

SOURCE

ROD (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ROD of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-66594 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ROD (C-14) is recommended for detection of Rough deal homolog 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).

ROD (C-14) is also recommended for detection of Rough deal homolog in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ROD siRNA (h): sc-62958, ROD siRNA (m): sc-62959, ROD shRNA Plasmid (h): sc-62958-SH, ROD shRNA Plasmid (m): sc-62959-SH, ROD shRNA (h) Lentiviral Particles: sc-62958-V and ROD shRNA (m) Lentiviral Particles: sc-62959-V.

Molecular Weight of ROD: 240 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

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.