

# ROD1 (C-1): sc-398105

## BACKGROUND

Differentiation is a fundamental attribute of multicellular organisms that is required for their body formation. Commitment to differentiation is regulated by a variety of signals and cellular conditions, including availability of differentiation factors, cell-cell contacts and physical and chemical stresses. In the fission yeast *Schizosaccharomyces pombe*, the *nrd1* gene encoding an RNA binding protein negatively regulates the onset of differentiation. The mammalian homologue of *nrd1* is ROD1, which encodes a protein with four repeats of typical RNA binding domains. When expressed in fission yeast, the ROD1 protein functions similar to *nrd1*. ROD1 is highly expressed in adult and embryo hematopoietic cells or organs. Overexpression of ROD1 effectively blocks the differentiation of human leukemia cells without affecting their proliferative ability, suggesting that ROD1 plays a critical role in controlling differentiation in mammalian cells.

## REFERENCES

1. Fukui, Y., et al. 1986. Mating pheromone-like diffusible factor released by *Schizosaccharomyces pombe*. EMBO J. 5: 1991-1993.
2. Leupold, U. 1987. Sex appeal in fission yeast. Curr. Genet. 12: 543-545.
3. Horvitz, H.R. and Herskowitz, I. 1992. Mechanisms of asymmetric cell division: two Bs or not Bs, that is the question. Cell 68: 237-255.

## CHROMOSOMAL LOCATION

Genetic locus: PTBP3 (human) mapping to 9q32; Ptpb3 (mouse) mapping to 4 B3.

## SOURCE

ROD1 (C-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 252-287 within an internal region of ROD1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ROD1 (C-1) is available conjugated to agarose (sc-398105 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398105 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398105 PE), fluorescein (sc-398105 FITC), Alexa Fluor® 488 (sc-398105 AF488), Alexa Fluor® 546 (sc-398105 AF546), Alexa Fluor® 594 (sc-398105 AF594) or Alexa Fluor® 647 (sc-398105 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398105 AF680) or Alexa Fluor® 790 (sc-398105 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398105 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## RESEARCH USE

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

## APPLICATIONS

ROD1 (C-1) is recommended for detection of ROD1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ROD1 (C-1) is also recommended for detection of ROD1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for ROD1 siRNA (h): sc-106897, ROD1 siRNA (m): sc-153058, ROD1 shRNA Plasmid (h): sc-106897-SH, ROD1 shRNA Plasmid (m): sc-153058-SH, ROD1 shRNA (h) Lentiviral Particles: sc-106897-V and ROD1 shRNA (m) Lentiviral Particles: sc-153058-V.

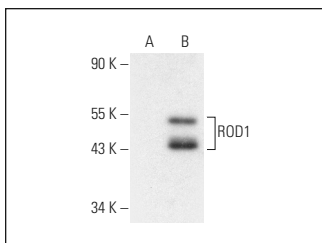
Molecular Weight of ROD1: 57 kDa.

Positive Controls: ROD1 (m2): 293T Lysate: sc-125944.

## 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.

## DATA



ROD1 (C-1): sc-398105. Western blot analysis of ROD1 expression in non-transfected: sc-117752 (A) and mouse ROD1 transfected: sc-125944 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Sun, X., et al. 2020. LncRNA GUARDIN suppresses cellular senescence through a LRP130-PGC1α-FOXO4-p21-dependent signaling axis. EMBO Rep. 21: e48796.

## STORAGE

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