

## RRS1 (G-2): sc-398748



The Power to Question

## BACKGROUND

RRS1 [RRS1 ribosome biogenesis regulator homolog (*S. cerevisiae*)], also known as KIAA0112, ribosome biogenesis regulatory protein homolog, regulator of ribosome synthesis 1, ribosome biogenesis regulatory protein RRS1 homolog or RRR, is a 365 amino acid protein belonging to the RRS1 family. RRS1 shows nucleolar localization and is involved in both ribosome biogenesis and chromosome congression. Recent studies indicate that in the absence of RRS1, cells experience mitotic delay due to abnormal spindle organization and chromosome alignment. The gene encoding RRS1 maps to human chromosome 8q13.1. Consisting of nearly 146 million base pairs, chromosome 8 encodes over 800 genes and is associated with a variety of diseases and malignancies. Schizophrenia, bipolar disorder, Trisomy 8, Pfeiffer syndrome, congenital hypothyroidism, Waardenburg syndrome and some leukemias and lymphomas are thought to occur as a result of defects in specific genes that map to chromosome 8.

## REFERENCES

1. Tsuno, A., et al. 2000. RRS1, a conserved essential gene, encodes a novel regulatory protein required for ribosome biogenesis in *Saccharomyces cerevisiae*. *Mol. Cell. Biol.* 20: 2066-2074.
2. Kashino, G., et al. 2001. Preferential expression of an intact WRN gene in Werner syndrome cell lines in which a normal chromosome 8 has been introduced. *Biochem. Biophys. Res. Commun.* 289: 111-115.
3. Andersen, J.S., et al. 2002. Directed proteomic analysis of the human nucleolus. *Curr. Biol.* 12: 1-11.
4. Selicorni, A., et al. 2002. Cytogenetic mapping of a novel locus for type II Waardenburg syndrome. *Hum. Genet.* 110: 64-67.
5. McQueen, M.B., et al. 2005. Combined analysis from eleven linkage studies of bipolar disorder provides strong evidence of susceptibility loci on chromosomes 6q and 8q. *Am. J. Hum. Genet.* 77: 582-595.
6. Andersen, J.S., et al. 2005. Nucleolar proteome dynamics. *Nature* 433: 77-83.
7. Mossafa, H., et al. 2006. Non-Hodgkin's lymphomas with Burkitt-like cells are associated with c-Myc amplification and poor prognosis. *Leuk. Lymphoma* 47: 1885-1893.
8. Gambe, A.E., et al. 2009. A nucleolar protein RRS1 contributes to chromosome congression. *FEBS Lett.* 583: 1951-1956.

## CHROMOSOMAL LOCATION

Genetic locus: RRS1 (human) mapping to 8q13.1; Rrs1 (mouse) mapping to 1 A2.

## SOURCE

RRS1 (G-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 40-65 near the N-terminus of RRS1 of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398748 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

RRS1 (G-2) is recommended for detection of RRS1 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).

Suitable for use as control antibody for RRS1 siRNA (h): sc-77521, RRS1 siRNA (m): sc-153134, RRS1 shRNA Plasmid (h): sc-77521-SH, RRS1 shRNA Plasmid (m): sc-153134-SH, RRS1 shRNA (h) Lentiviral Particles: sc-77521-V and RRS1 shRNA (m) Lentiviral Particles: sc-153134-V.

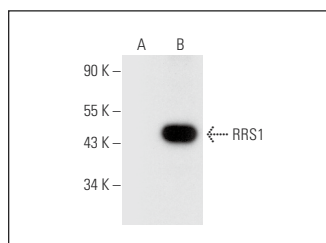
Molecular Weight of RRS1: 41 kDa.

Positive Controls: RRS1 (m): 293T Lysate: sc-110288, HL-60 nuclear extract: sc-2147 or 3T3-L1 cell lysate: sc-2243.

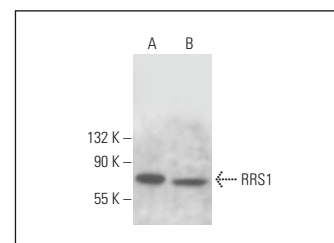
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA



RRS1 (G-2): sc-398748. Western blot analysis of RRS1 expression in non-transfected: sc-117752 (A) and mouse RRS1 transfected: sc-110288 (B) 293T whole cell lysates.



RRS1 (G-2): sc-398748. Western blot analysis of RRS1 expression in HL-60 nuclear extract (A) and 3T3-L1 whole cell lysate (B).

## RESEARCH USE

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