



RNPS1 (D-14): sc-19940

BACKGROUND

RNA-binding protein S1 (RNPS1) activates pre-mRNA splicing by synergizing with serine rich (SR) proteins. RNPS1 contains as an RNA-recognition motif preceded by an extensive serine-rich domain. RNPS1 specifically interacts with PITSLRE p110, a member of the p34cdc2 superfamily. Like PITSLRE, RNPS1 localizes to nuclear speckles. RNPS1 also interacts with SART-3, a squamous-cell carcinoma antigen expressed in the nuclei of proliferating cells. RNPS1, SRm160, DEK, Y14 and REF are part of an exon-exon junction complex (EJC) that provides a strong binding site for mRNA export factors and serves as a platform for nonsense-mediated decay (NMD) factors. Specifically, RNPS1 induces NMD when tethered to the 3' untranslated region of β -globin mRNA. The gene encoding human RNPS1 maps to chromosome 16p13.3.

REFERENCES

1. Burn, T.C., Connors, T.D., Van Raay, T.J., Dackowski, W.R., Millholland, J.M., Klinger, K.W., and Landes, G.M. 1996. Generation of a transcriptional map for a 700 kb region surrounding the polycystic kidney disease type 1 (PKD1) and tuberous sclerosis type 2 (TSC2) disease genes on human chromosome 16p13.3. *Genome Res.* 6: 525-537.
2. Loyer, P., Trembley, J.H., Lahti, J.M., and Kidd, V.J. 1998. The RNP protein, RNPS1, associates with specific isoforms of the p34cdc2-related PITSLRE protein kinase *in vivo*. *J. Cell Sci.* 111: 1495-1506.
3. Mayeda, A., Badolato, J., Kobayashi, R., Zhang, M.Q., Gardiner, E.M., and Krainer, A.R. 1999. Purification and characterization of human RNPS1: a general activator of pre-mRNA splicing. *EMBO J.* 18: 4560-4570.
4. Harada, K., Yamada, A., Yang, D., Itoh, K., and Shichijo, S. 2001. Binding of a SART3 tumor-rejection antigen to a pre-mRNA splicing factor RNPS1: a possible regulation of splicing by a complex formation. *Int. J. Cancer* 93: 623-628.
5. Le Hir, H., Gatfield, D., Izaurralde, E., and Moore, M.J. 2001. The exon-exon junction complex provides a binding platform for factors involved in mRNA export and nonsense-mediated mRNA decay. *EMBO J.* 20: 4987-4997.
6. Lykke-Andersen, J., Shu, M.D., and Steitz, J.A. 2001. Communication of the position of exon-exon junctions to the mRNA surveillance machinery by the protein RNPS1. *Science* 293: 1836-1839.

CHROMOSOMAL LOCATION

Genetic locus: RNPS1 (human) mapping to 16p13.3; Rnps1 (mouse) mapping to 17.

SOURCE

RNPS1 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of RNPS1 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 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19940 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RNPS1 (D-14) is recommended for detection of RNPS1 and LOC643446 of human origin and RNPS1 of mouse and rat 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).

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.

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.