SANTA CRUZ BIOTECHNOLOGY, INC.

RPA16 (2774C3a): sc-81636

BACKGROUND

RNA polymerases transcribe nuclear genes for ribosomal RNA, thus representing ribosomal biogenesis. RNA polymerase I (Pol I) is located in the nucleolus and transcribes class I genes, which code for large ribosomal RNA. Different subunits of the Pol I transcription machinery are targets of various physiological stimuli, which suggests that multiple signaling pathways are involved in carrying out Pol I transcription. RPA40 and RPA16 are both subunits of Pol I that associate with each other at an early stage of RNA polymerase I assembly. RPA40 is essential for the function and integrity of the complex and is also an essential subunit of RNA polymerase III (Pol III). RPA194 is the largest subunit of RNA Pol I and is not a component of Pol II and Pol III.

REFERENCES

1. Nogi, Y., et al. 1991. An approach for isolation of mutants defective in 35S ribosomal RNA synthesis in *Saccharomyces cerevisiae*. Proc. Natl. Acad. Sci. USA 88: 7026-7030.
2. Yao, Y., et al. 1996. Mouse RNA polymerase I 16-kDa subunit able to associate with 40-kDa subunit is a homolog of yeast AC19 subunit of RNA polymerases I and III. J. Biol. Chem. 271: 32881-32885.
3. Seither, P., et al. 1997. Molecular cloning and characterization of the cDNA encoding the largest subunit of mouse RNA polymerase I. Mol. Gen. Genet. 255: 180-186.
4. Hoeger, H., et al. 1998. Deficient transcription of subunit RPA40 of RNA polymerase I and III in heart of rats with neonatal asphyxia. Life Sci. 62: 275-282.
5. Grummt, I. 1999. Regulation of mammalian ribosomal gene transcription by RNA polymerase I. Prog. Nucleic Acid Res. Mol. Biol. 62: 109-154.
6. Chen, H.K., et al. 1999. Human Nopp140, which interacts with RNA polymerase I: implications for rRNA gene transcription and nucleolar structural organization. Mol. Cell. Biol. 19: 8536-8546.
7. Mosgoeller, W., et al. 2000. Brain RNA polymerase and nucleolar structure in perinatal asphyxia of the rat. Exp. Neurol. 161: 174-182.

CHROMOSOMAL LOCATION

Genetic locus: POLR1D (human) mapping to 13q12.2.

SOURCE

RPA16 (2774C3a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the N-terminal region of RPA16 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

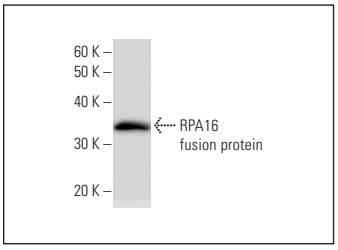
APPLICATIONS

RPA16 (2774C3a) is recommended for detection of RPA16 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for RPA16 siRNA (h): sc-38240, RPA16 shRNA Plasmid (h): sc-38240-SH and RPA16 shRNA (h) Lentiviral Particles: sc-38240-V.

Molecular Weight of RPA16: 15 kDa.

DATA



RPA16 (2774C3a): sc-81636. Western Blot analysis of human recombinant RPA16 fusion protein.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.