POLR1E (S-14): sc-107949

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BIOTECHNOLOGY

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BACKGROUND

RNA polymerase I (Pol I) is a multi-subunit complex responsible for catalyzing the transcription of DNA into RNA, specifically via the synthesis of ribosomal RNA precursors. POLR1E (polymerase (RNA) I polypeptide E), also known as PAF53 or PRAF1, is a 481 amino acid protein that localizes to the nucleolus and belongs to the eukaryotic RPA49/POLR1E RNA polymerase subunit family. Existing as a component of the Pol I complex, POLR1E functions as a DNA-dependent RNA polymerase that uses the four ribonucleoside triphosphates as substrates to catalyze the transcription of DNA into RNA. The gene encoding POL1E maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, and familial dysautonomia, are both associated with chromosome 9. Notably, chromosome 9 encompasses the largest interferon family gene cluster.

REFERENCES

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2. Voit, R. and Grummt, I. 2001. Phosphorylation of UBF at serine 388 is required for interaction with RNA polymerase I and activation of rDNA transcription. Proc. Natl. Acad. Sci. USA 98: 13631-13636.

3. Bjerregaard, B., et al. 2004. Regulation of ribosomal RNA synthesis during the final phases of porcine oocyte growth. Biol. Reprod. 70: 925-935.

4. Yamamoto, K., et al. 2004. Multiple protein-protein interactions by RNA polymerase I-associated factor PAF49 and role of PAF49 in rRNA transcription. Mol. Cell. Biol. 24: 6338-6349.

5. Percipalle, P., et al. 2006. The chromatin remodelling complex WSTF-SNF2h interacts with nuclear myosin 1 and has a role in RNA polymerase I transcription. EMBO Rep. 7: 525-530.

CHROMOSOMAL LOCATION

Genetic locus: POLR1E (human) mapping to 9p13.2; Polr1e (mouse) mapping to 4 B1.

SOURCE

POLR1E (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of POLR1E 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-107949 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-107949 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

POLR1E (S-14) is recommended for detection of POLR1E of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

POLR1E (S-14) is also recommended for detection of POLR1E in additional species, including equine, canine and bovine.

Suitable for use as control antibody for POLR1E siRNA (h): sc-92929, POLR1E siRNA (m): sc-152370, POLR1E shRNA Plasmid (h): sc-92929-SH, POLR1E shRNA Plasmid (m): sc-152370-SH, POLR1E shRNA (h) Lentiviral Particles: sc-92929-V and POLR1E shRNA (m) Lentiviral Particles: sc-152370-V.

POLR1E (S-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of POLR1E: 54 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or A549 cell lysate: sc-2413.

DATA
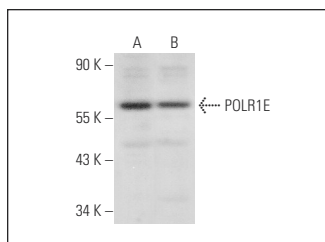
POLR1E (S-14): sc-107949. Western blot analysis of POLR1E expression in Jurkat (**A**) and A549 (**B**) whole cell lysates.

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.

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Try **POLR1E (C-11): sc-398270**, our highly recommended monoclonal alternative to POLR1E (S-14).