

POLR3E (N-14): sc-107951

BACKGROUND

Eukaryotes produce 3 distinct classes of RNA polymerase, Pol I, II and III. Each polymerase is responsible for the synthesis of a different class of RNA. RNA polymerase III (Pol III) transcribes the 5S rRNA genes and all of the tRNA (transfer RNA) genes. POLR3E, also known as DNA-directed RNA polymerase III subunit RPC5, is a 708 amino acid nuclear protein that is one of the 17 subunits that comprise Pol III. Specifically, POLR3E is a DNA-dependent RNA polymerase that uses the four ribonucleoside triphosphates to catalyze the transcription of DNA to RNA. The gene encoding POLR3K maps to human chromosome 16, which encodes over 900 genes in approximately 90 million base pairs and is associated with a variety of genetic disorders.

REFERENCES

1. Ittmann, M., et al. 1987. Isolation of the human gene that complements a temperature-sensitive cell cycle mutation in BHK cells. *Mol. Cell. Biol.* 7: 3386-3393.
2. Ittmann, M., et al. 1993. The gene complementing a temperature-sensitive cell cycle mutant of BHK cells is the human homologue of the yeast RPC53 gene, which encodes a subunit of RNA polymerase C (III). *Cell Growth Differ.* 4: 503-511.
3. Ittmann, M.M. 1994. Cell cycle control of the BN51 cell cycle gene which encodes a subunit of RNA polymerase III. *Cell Growth Differ.* 5: 783-788.
4. Jackson, A.J., et al. 1995. The BN51 protein is a polymerase (Pol)-specific subunit of RNA Pol III which reveals a link between Pol III transcription and pre-rRNA processing. *Mol. Cell. Biol.* 15: 94-101.
5. Chong, S.S., et al. 2001. Reconstitution of transcription from the human U6 small nuclear RNA promoter with eight recombinant polypeptides and a partially purified RNA polymerase III complex. *J. Biol. Chem.* 276: 20727-20734.
6. Nikitina, T.V., et al. 2005. RNA polymerase III transcription apparatus: structure and transcription regulation. *Mol. Biol.* 39: 179-192.

CHROMOSOMAL LOCATION

Genetic locus: POLR3E (human) mapping to 16p12.2; Polr3e (mouse) mapping to 7 F2.

SOURCE

POLR3E (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of POLR3E 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-107951 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

POLR3E (N-14) is recommended for detection of POLR3E 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).

POLR3E (N-14) is also recommended for detection of POLR3E in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for POLR3E siRNA (h): sc-93337, POLR3E siRNA (m): sc-152379, POLR3E shRNA Plasmid (h): sc-93337-SH, POLR3E shRNA Plasmid (m): sc-152379-SH, POLR3E shRNA (h) Lentiviral Particles: sc-93337-V and POLR3E shRNA (m) Lentiviral Particles: sc-152379-V.

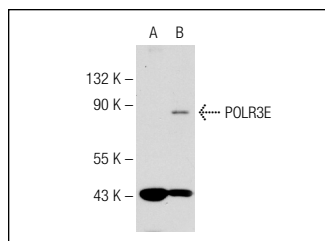
Molecular Weight of POLR3E: 80/75/73 kDa.

Positive Controls: POLR3E (m): 293T Lysate: sc-127365.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



POLR3E (N-14): sc-107951. Western blot analysis of POLR3E expression in non-transfected: sc-117752 (A) and mouse POLR3E transfected: sc-127365 (B) 293T 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.