

Pol I/II/III RPB6 (E-15): sc-32116

BACKGROUND

Eukaryotes produce three 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 I (Pol I) transcribes the rRNA (ribosomal RNA) genes for the precursor of the 28S, 18S and 5.8S molecules of the ribosome. RNA polymerase II (Pol II) transcribes protein-encoding genes into mRNA (messenger RNA) and snRNA (small nuclear RNA) genes into snRNAs that influence the processing of other classes of RNA. RNA polymerase III (Pol III) transcribes the 5S rRNA genes and all of the tRNA (transfer RNA) genes. Each class of RNA polymerase is assembled from 9 to 15 different polypeptides. The RPB6 and RPB8 subunits are shared by all 3 RNA polymerases.

REFERENCES

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2. Palangat, M., et al. 2004. Downstream DNA selectively affects a paused conformation of human RNA polymerase II. *J. Mol. Biol.* 341: 429-442.
3. Zhong, S., et al. 2004. Epidermal growth factor enhances cellular TATA binding protein levels and induces RNA polymerase I- and III-dependent gene activity. *Mol. Cell. Biol.* 24: 5119-5129.
4. Hirsch, H.A., et al. 2004. Distinct mechanisms for repression of RNA polymerase III transcription by the retinoblastoma tumor suppressor protein. *Mol. Cell. Biol.* 24: 5989-5999.
5. White, R.J. 2004. RNA polymerase III transcription and cancer. *Oncogene* 23: 3208-3216.
6. Cabart, P., et al. 2004. BRCA1 cooperates with NUFIP and P-TEFb to activate transcription by RNA polymerase II. *Oncogene* 23: 5316-5329.
7. Svejstrup, J.Q. 2004. The RNA polymerase II transcription cycle: cycling through chromatin. *Biochim. Biophys. Acta* 1677: 64-73.
8. Cramer, P. 2004. Structure and function of RNA polymerase II. *Adv. Protein Chem.* 67: 1-42.
9. Comai, L. 2004. Mechanism of RNA polymerase I transcription. *Adv. Protein Chem.* 67: 123-155.

CHROMOSOMAL LOCATION

Genetic locus: POLR2F (human) mapping to 22q13.1; Polr2f (mouse) mapping to 15 E1.

SOURCE

Pol I/II/III RPB6 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Pol I/II/III RPB6 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-32116 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Pol I/II/III RPB6 (E-15) is recommended for detection of Pol I/II/III RPB6 of mouse, rat and human 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); may cross-react with serum paraoxonase 3.

Pol I/II/III RPB6 (E-15) is also recommended for detection of Pol I/II/III RPB6 in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for Pol I/II/III RPB6 siRNA (h): sc-45868, Pol I/II/III RPB6 siRNA (m): sc-45869, Pol I/II/III RPB6 shRNA Plasmid (h): sc-45868-SH, Pol I/II/III RPB6 shRNA Plasmid (m): sc-45869-SH, Pol I/II/III RPB6 shRNA (h) Lentiviral Particles: sc-45868-V and Pol I/II/III RPB6 shRNA (m) Lentiviral Particles: sc-45869-V.

Molecular Weight of Pol I/II/III RPB6: 15 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or HeLa whole cell lysate: sc-2200.

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.

SELECT PRODUCT CITATIONS

1. Matayoshi, R. and Otaki, J.M. 2011. Immunohistochemical detection of olfactory-specific sensory transduction proteins in olfactory neuroblastoma. *Neurosci. Res.* 69: 258-262.

STORAGE

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

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.