

Pol I/II/III RPB8 (SP-75): sc-134422

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 three 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.
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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: POLR2H (human) mapping to 3q27.1; Polr2h (mouse) mapping to 16 B1.

SOURCE

Pol I/II/III RPB8 (SP-75) is a mouse monoclonal antibody raised against recombinant Pol I/II/III RPB8 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Pol I/II/III RPB8 (SP-75) is recommended for detection of RNA polymerase I/II/III subunit RPB8 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Pol I/II/III RPB8 siRNA (h): sc-45866, Pol I/II/III RPB8 siRNA (m): sc-45867, Pol I/II/III RPB8 shRNA Plasmid (h): sc-45866-SH, Pol I/II/III RPB8 shRNA Plasmid (m): sc-45867-SH, Pol I/II/III RPB8 shRNA (h) Lentiviral Particles: sc-45866-V and Pol I/II/III RPB8 shRNA (m) Lentiviral Particles: sc-45867-V.

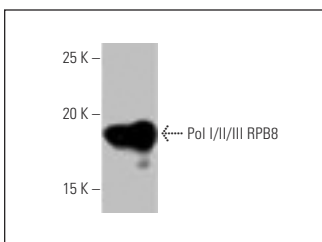
Molecular Weight of Pol I/II/III RPB8: 17 kDa.

Positive Controls: Hep G2 whole cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

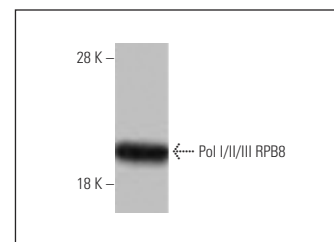
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Pol I/II/III RPB8 (SP-75): sc-134422. Western blot analysis of Pol I/II/III RPB8 expression in Hep G2 whole cell lysate.



Pol I/II/III RPB8 (SP-75): sc-134422. Western blot analysis of Pol I/II/III RPB8 expression in HeLa whole cell lysate.

STORAGE

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

PROTOCOLS

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