SANTA CRUZ BIOTECHNOLOGY, INC.

Pol I/II/III RPB6 (B6-1): sc-21751

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

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 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 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.

CHROMOSOMAL LOCATION

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

SOURCE

Pol I/II/III RPB6 (B6-1) is a mouse monoclonal antibody raised against recombinant human RPB6, shared subunit of Polymerase I, II, and III.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pol I/II/III RPB6 (B6-1) is available conjugated to agarose (sc-21751 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-21751 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-21751 PE), fluorescein (sc-21751 FITC), Alexa Fluor® 488 (sc-21751 AF488), Alexa Fluor® 546 (sc-21751 AF546), Alexa Fluor® 594 (sc-21751 AF594) or Alexa Fluor® 647 (sc-21751 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-21751 AF680) or Alexa Fluor® 790 (sc-21751 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

Pol I/II/III RPB6 (B6-1) 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), 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

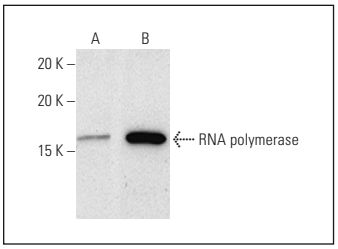
Molecular Weight of Pol I/II/III RPB6: 15 kDa.

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

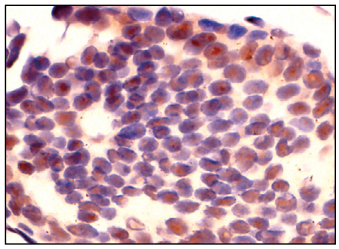
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Pol I/II/III (B6-1): sc-21751. Western blot analysis of RNA polymerase expression in HeLa whole cell lysate (**A**) and nuclear extract (**B**). Kindly provided by Peter Cook, The Sir William Dunn School of Pathology.



Pol I/II/III RPB6 (B6-1): sc-21751. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast carcinoma tissue showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Dieriks, B. and Van Oostveldt, P. 2012. Spatiotemporal behavior of nuclear cyclophilin B indicates a role in RNA transcription. Int. J. Mol. Med. 29: 1031-1038.
2. Brehm, M.A., et al. 2013. A non-catalytic role for inositol 1,3,4,5,6-pentakisphosphate 2-kinase in the synthesis of ribosomal RNA. J. Cell Sci. 126: 437-444.
3. Ehm, P., et al. 2015. The tumor suppressor SHIP1 colocalizes in nucleolar cavities with p53 and components of PML nuclear bodies. Nucleus 6: 154-164.
4. Wang, J., et al. 2017. A transcription factor IIA-binding site differentially regulates RNA polymerase II-mediated transcription in a promoter context-dependent manner. J. Biol. Chem. 292: 11873-11885.
5. Huang, L., et al. 2019. A novel method to investigate the effects of gene mutations at the cellular level using a dual expression lentiviral vector. Biosci. Rep. 39: BSR20182383.
6. Hu, S., et al. 2022. The environmental pollutant 3-methyl-4-nitrophenol reduces the regulatory T cells in the intestine. Toxicology 482: 153356.

STORAGE

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