SANTA CRUZ BIOTECHNOLOGY, INC.

Pol III RPC32 (H-9): sc-48365

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 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.

CHROMOSOMAL LOCATION

Genetic locus: POLR3G (human) mapping to 5q14.3; Polr3g (mouse) mapping to 13 C3.

SOURCE

Pol III RPC32 (H-9) is a mouse monoclonal antibody raised against amino acids 1-136 of Pol III RPC32 of human origin.

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 III RPC32 (H-9) is available conjugated to agarose (sc-48365 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48365 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-48365 PE), fluorescein (sc-48365 FITC), Alexa Fluor® 488 (sc-48365 AF488), Alexa Fluor® 546 (sc-48365 AF546), Alexa Fluor® 594 (sc-48365 AF594) or Alexa Fluor® 647 (sc-48365 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-48365 AF680) or Alexa Fluor® 790 (sc-48365 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Pol III RPC32 (H-9) is recommended for detection of RPC 32 subunit of RNA polymerase III of mouse, rat and human origin by Western Blotting (starting dilution 1:10, dilution range 1:10-1:100), 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Pol III RPC32 siRNA (h): sc-43507, Pol III RPC32 siRNA (m): sc-45840, Pol III RPC32 shRNA Plasmid (h): sc-43507-SH, Pol III RPC32 shRNA Plasmid (m): sc-45840-SH, Pol III RPC32 shRNA (h) Lentiviral Particles: sc-43507-V and Pol III RPC32 shRNA (m) Lentiviral Particles: sc-45840-V.

Molecular Weight (predicted) of Pol III RPC32: 26 kDa.

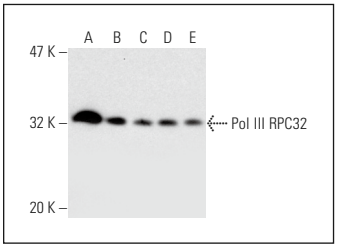
Molecular Weight (observed) of Pol III RPC32: 32 kDa.

Positive Controls: PC-3 nuclear extract: sc-2152, MOLT-4 nuclear extract: sc-2151 or K-562 nuclear extract: sc-2130.

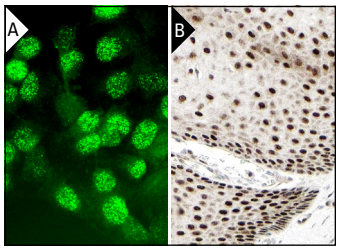
STORAGE

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

DATA



Pol III RPC32 (H-9): sc-48365. Western blot analysis of Pol III RPC32 expression in SK-MEL-28 (**A**), PC-3 (**B**), K-562 (**C**), THP-1 (**D**) and MOLT-4 (**E**) nuclear extracts.



Pol III RPC32 (H-9): sc-48365. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix, uterine tissue showing nuclear staining of glandular and surface epithelial cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Roman, A.C., et al. 2011. Dioxin receptor and SLUG transcription factors regulate the insulator activity of B1 SINE retrotransposons via an RNA polymerase switch. Genome Res. 21: 422-432.
2. Xue, F., et al. 2015. SRSF1 facilitates cytosolic DNA-induced production of type I interferons recognized by RIG-I. PLoS ONE 10: e0115354.
3. Chen, J., et al. 2020. Cell cycle checkpoints cooperate to suppress DNA- and RNA-associated molecular pattern recognition and anti-tumor immune responses. Cell Rep. 32: 108080.
4. Kwan, J.Z.J., et al. 2023. RNA polymerase II transcription independent of TBP in murine embryonic stem cells. Elife 12: e83810.
5. Cheng, R., et al. 2023. A combinatorial regulatory platform determines expression of RNA polymerase III subunit RPC7α (POLR3G) in cancer. Cancers 15: 4995.

RESEARCH USE

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

PROTOCOLS

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