

POLR3E (B-11): sc-365703

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.

CHROMOSOMAL LOCATION

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

SOURCE

POLR3E (B-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 53-81 near the N-terminus of POLR3E of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

POLR3E (B-11) is available conjugated to agarose (sc-365703 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365703 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365703 PE), fluorescein (sc-365703 FITC), Alexa Fluor® 488 (sc-365703 AF488), Alexa Fluor® 546 (sc-365703 AF546), Alexa Fluor® 594 (sc-365703 AF594) or Alexa Fluor® 647 (sc-365703 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365703 AF680) or Alexa Fluor® 790 (sc-365703 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365703 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

POLR3E (B-11) is recommended for detection of POLR3E of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (B-11) 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.

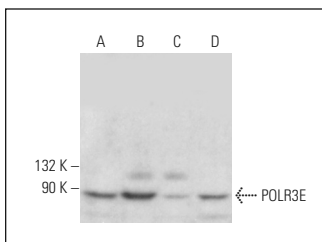
Molecular Weight of POLR3E: 80/75/73 kDa.

Positive Controls: COLO 320DM whole cell lysate: sc-2226, HL-60 whole cell lysate: sc-2209 or Ramos whole cell lysate: sc-2216.

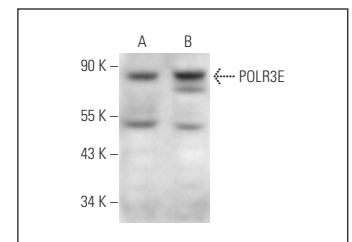
RECOMMENDED SUPPORT REAGENTS

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.

DATA



POLR3E (B-11): sc-365703. Western blot analysis of POLR3E expression in HL-60 (A), Hep G2 (B), A-431 (C) and HEL 92.1.7 (D) whole cell lysates.



POLR3E (B-11): sc-365703. Western blot analysis of POLR3E expression in COLO 320DM (A) and Ramos (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Di Pascale, F., et al. 2018. C/EBPβ mediates RNA polymerase III-driven transcription of oncomiR-138 in malignant gliomas. *Nucleic Acids Res.* 46: 336-349.

RESEARCH USE

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

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