SANTA CRUZ BIOTECHNOLOGY, INC.

POLR2E (B-5): sc-390979

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RNA polymerase II (Pol II) is a multi-subunit complex responsible for catalyzing the transcription of DNA into RNA. POLR2E (polymerase (RNA) II (DNA directed) polypeptide E), also designated RPB5, XAP4, RPABC1, hRPB25 or hsRPB5, is a 210 amino acid nuclear protein belonging to the archaeal rpoH/eukaryotic RPB5 RNA polymerase subunit family. POLR2E is a DNA-dependent RNA polymerase that catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates. POLR2E is a component of the RNA polymerase I (Pol I), RNA polymerase II (Pol II) and RNA polymerase III (Pol III) complexes. The Pol complexes synthesize both mRNA and ribosomal RNA precursors, many functional non-coding RNAs and small RNAs including 5S rRNA and tRNAs. POLR2E interacts with TFIIF RAP 30 and is important for the association between Pol II and TFIIF.

CHROMOSOMAL LOCATION

Genetic locus: POLR2E (human) mapping to 19p13.3; Polr2e (mouse) mapping to 10 C1.

SOURCE

POLR2E (B-5) is a mouse monoclonal antibody raised against amino acids 7-210 representing full length POLR2E of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

POLR2E (B-5) is available conjugated to agarose (sc-390979 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390979 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390979 PE), fluorescein (sc-390979 FITC), Alexa Fluor® 488 (sc-390979 AF488), Alexa Fluor® 546 (sc-390979 AF546), Alexa Fluor® 594 (sc-390979 AF594) or Alexa Fluor® 647 (sc-390979 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390979 AF680) or Alexa Fluor® 790 (sc-390979 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

POLR2E (B-5) is recommended for detection of POLR2E 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), 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).

POLR2E (B-5) is also recommended for detection of POLR2E in additional species, including equine, bovine, porcine and avian.

Suitable for use as control antibody for POLR2E siRNA (h): sc-97922, POLR2E siRNA (m): sc-152372, POLR2E shRNA Plasmid (h): sc-97922-SH, POLR2E shRNA Plasmid (m): sc-152372-SH, POLR2E shRNA (h) Lentiviral Particles: sc-97922-V and POLR2E shRNA (m) Lentiviral Particles: sc-152372-V.

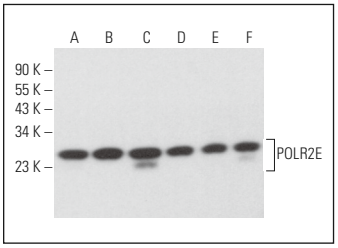
Molecular Weight of POLR2E: 24 kDa.

Positive Controls: A-10 cell lysate: sc-3806 or MCF7 whole cell lysate: sc-2206.

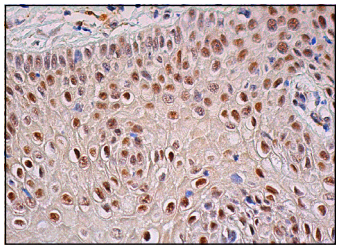
RECOMMENDED SUPPORT REAGENTS

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



POLR2E (B-5): sc-390979. Western blot analysis of POLR2E expression in MCF7 (**A**), A549 (**B**), K-562 (**C**), C2C12 (**D**), Sol8 (**E**) and A-10 (**F**) whole cell lysates.



POLR2E (B-5): sc-390979. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Luo, H., et al. 2024. ARMC5 controls the degradation of most Pol II subunits, and ARMC5 mutation increases neural tube defect risks in mice and humans. Genome Biol. 25: 19.

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 for detailed protocols and support products.