

# POLR2E (C-10): sc-390902

## 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.

## REFERENCES

- Cheong, J.H., et al. 1995. Human RPB5, a subunit shared by eukaryotic nuclear RNA polymerases, binds human hepatitis B virus X protein and may play a role in X transactivation. *EMBO J.* 14: 143-150.
- Kershner, E., et al. 1998. Immunoaffinity purification and functional characterization of human transcription factor IIH and RNA polymerase II from clonal cell lines that conditionally express epitope-tagged subunits of the multiprotein complexes. *J. Biol. Chem.* 273: 34444-34453.
- Wei, W., et al. 2001. Direct interaction between the subunit RAP30 of transcription factor IIF (TFIIF) and RNA polymerase subunit 5, which contributes to the association between TFIIF and RNA polymerase II. *J. Biol. Chem.* 276: 12266-12273.
- Delgermaa, L., et al. 2004. Subcellular localization of RPB5-mediated protein and its putative functional partner. *Mol. Cell. Biol.* 24: 8556-8566.
- Le, T.T., et al. 2005. Mutational analysis of human RNA polymerase II subunit 5 (RPB5): the residues critical for interactions with TFIIF subunit RAP30 and hepatitis B virus X protein. *J. Biochem.* 138: 215-224.

## CHROMOSOMAL LOCATION

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

## SOURCE

POLR2E (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 7-210 representing full length of POLR2E of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390902 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

POLR2E (C-10) 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 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).

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.

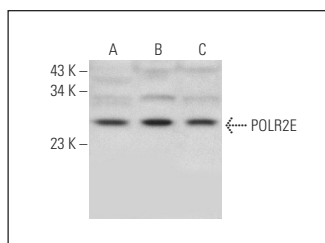
Molecular Weight of POLR2E: 24 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Hep G2 cell lysate: sc-2227 or A549 cell lysate: sc-2413.

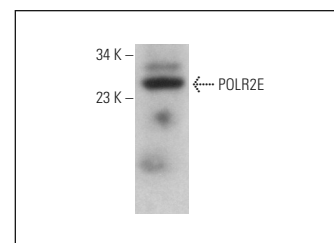
## RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 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



POLR2E (C-10): sc-390902. Western blot analysis of POLR2E expression in MCF7 (A), Hep G2 (B) and A549 (C) whole cell lysates.



POLR2E (C-10): sc-390902. Western blot analysis of POLR2E expression in mouse heart tissue extract.

## 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](http://www.scbt.com) for detailed protocols and support products.