SANTA CRUZ BIOTECHNOLOGY, INC.

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

- 1. 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.
- Kershnar, 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.
- 3. 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-mediating protein and its putative functional partner. Mol. Cell. Biol. 24: 8556-8566.
- 5. 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 $\mu g~lgG_1$ 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 μ g 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 μ g per 100-500 μ g 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-lgG κ BP-HRP: sc-516102 or m-lgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM 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-lgG κ BP-FITC: sc-516140 or m-lgG κ 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 for detailed protocols and support products.