SANTA CRUZ BIOTECHNOLOGY, INC.

POLR2I (Q-12): sc-131763

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RNA polymerase II (Pol II) is a multi-subunit enzyme responsible for the transcription of protein-coding genes. Transcription initiation requires recruitment of the complete transcription machinery to a promoter via solicitation by activators and chromatin remodeling factors. Pol II can coordinate 10 to 14 subunits. This complex interacts with the promoter regions of genes and a variety of elements and transcription factors. POLR2I (polymerase (RNA) II (DNA directed) polypeptide I), also known as RPB9 or hRPB14.5, is a 125 amino acid nuclear protein belonging to the archaeal rpoM/eukaryotic RPA12/RPB9/RPC11 RNA polymerase family. Component of RNA polymerase II, POLR2I catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates. POLR2I is part of the upper jaw surrounding the central large cleft and is thought to grab the incoming DNA template.

REFERENCES

1. Acker, J., Wintzerith, M., Vigneron, M. and Kedinger, C. 1993. Structure of the gene encoding the 14.5 kDa subunit of human RNA polymerase II. Nucleic Acids Res. 21: 5345-5350.
2. Acker, J., Mattei, M.G., Wintzerith, M., Roeckel, N., Depetris, D., Vigneron, M. and Kedinger, C. 1994. Chromosomal localization of human RNA polymerase II subunit genes. Genomics 20: 496-499.
3. Online Mendelian Inheritance in Man, OMIM™. 1994. Johns Hopkins University, Baltimore, MD. MIM Number: 180662. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. McKune, K., Moore, P.A., Hull, M.W. and Woychik, N.A. 1995. Six human RNA polymerase subunits functionally substitute for their yeast counterparts. Mol. Cell. Biol. 15: 6895-6900.
5. Bushnell, D.A., et al. 2004. Structural basis of transcription: an RNA polymerase II-TFIIB cocrystal at 4.5 Angstroms. Science 303: 983-988.
6. Palangat, M., et al. 2004. Downstream DNA selectively affects a paused conformation of human RNA polymerase II. J. Mol. Biol. 341: 429-442.
7. Zhong, S., et al. 2004. Epidermal growth factor enhances cellular TATA binding protein levels and induces RNA polymerase I- and III-dependent gene activity. Mol. Cell. Biol. 24: 5119-5129.
8. Hirsch, H.A., et al. 2004. Distinct mechanisms for repression of RNA polymerase III transcription by the retinoblastoma tumor suppressor protein. Mol. Cell. Biol. 24: 5989-5999.
9. Cabart, P., et al. 2004. BRCA1 cooperates with NUFIP and P-TEFβ to activate transcription by RNA polymerase II. Oncogene 23: 5316-5329.

CHROMOSOMAL LOCATION

Genetic locus: POLR2I (human) mapping to 19q13.12; Polr2i (mouse) mapping to 7 B1.

SOURCE

POLR2I (Q-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of POLR2I of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-131763 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

POLR2I (Q-12) is recommended for detection of POLR2I of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other POLR2 family members.

POLR2I (Q-12) is also recommended for detection of POLR2I in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for POLR2I siRNA (h): sc-97881, POLR2I siRNA (m): sc-152373, POLR2I shRNA Plasmid (h): sc-97881-SH, POLR2I shRNA Plasmid (m): sc-152373-SH, POLR2I shRNA (h) Lentiviral Particles: sc-97881-V and POLR2I shRNA (m) Lentiviral Particles: sc-152373-V.

Molecular Weight of POLR2I: 15 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.