

POLR2I (D-12): sc-131761

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., et al. 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., et al. 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., et al. 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.

CHROMOSOMAL LOCATION

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

SOURCE

POLR2I (D-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-131761 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

POLR2I (D-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), 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); non cross-reactive with other POLR2 family members.

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

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.

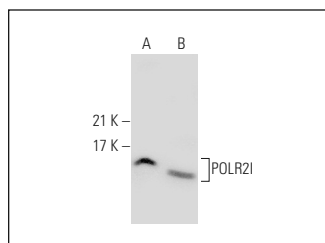
Molecular Weight of POLR2I: 15 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or human tonsil tissue extract: sc-364263.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



POLR2I (D-12): sc-131761. Western blot analysis of POLR2I expression in Jurkat whole cell lysate (A) and human tonsil tissue extract (B).

STORAGE

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