

POLR2K (T-14): sc-54651



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. POLR2K (polymerase (RNA) II (DNA directed) polypeptide K), also known as RPB12, RPABC4, RPB7.0, hRPB7.0, hsRPB10a, RPB10 α or ABC10- α , is a 58 amino acid nuclear protein belonging to the archaeal rpoP/eukaryotic RPC10 RNA polymerase subunit family. The gene encoding POLR2K is located on human chromosome 8, which consists of nearly 146 million base pairs, houses more than 800 genes and is associated with a variety of diseases and malignancies.

REFERENCES

- Dumay, H., Rubbi, L., Sentenac, A. and Marck, C. 1999. Interaction between yeast RNA polymerase III and transcription factor TFIIC via ABC10 α and Tau131 subunits. *J. Biol. Chem.* 274: 33462-33468.
- Wildenauer, D.B. and Schwab, S.G. 1999. Chromosomes 8 and 10 workshop. *Am. J. Med. Genet.* 88: 239-243.
- Mackereth, C.D., Arrowsmith, C.H., Edwards, A.M. and McIntosh, L.P. 2000. Zinc-bundle structure of the essential RNA polymerase subunit RPB10 from *Methanobacterium thermoautotrophicum*. *Proc. Natl. Acad. Sci. USA* 97: 6316-6321.
- Watanabe, C.M., Supekova, L. and Schultz, P.G. 2002. Transcriptional effects of the potent enediyne anti-cancer agent Calicheamicin γ (I)(1). *Chem. Biol.* 9: 245-251.
- Proshkin, S.A. and Shpakovski, G.V. 2004. Heterologous overexpression and purification of four common subunits of nuclear RNA polymerases I, II and III of *Schizosaccharomyces pombe*. *J. Chromatogr. B Analyt. Technol. Biomed. Life Sci.* 800: 121-126.
- Liu, Y., Zhu, X., Zhu, J., Liao, S., Tang, Q., Liu, K., Guan, X., Zhang, J. and Feng, Z. 2007. Identification of differential expression of genes in hepatocellular carcinoma by suppression subtractive hybridization combined cDNA microarray. *Oncol. Rep.* 18: 943-951.
- Heidenblad, M., Lindgren, D., Jonson, T., Liedberg, F., Veerla, S., Chebil, G., Gudjonsson, S., Borg, A., Mansson, W. and Höglund, M. 2008. Tiling resolution array CGH and high density expression profiling of urothelial carcinomas delineate genomic amplicons and candidate target genes specific for advanced tumors. *BMC Med. Genomics.* 1: 3.

CHROMOSOMAL LOCATION

Genetic locus: POLR2K (human) mapping to 8q22.2; Polr2k (mouse) mapping to 15 B3.1.

SOURCE

POLR2K (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of POLR2K of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-54651 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

POLR2K (T-14) is recommended for detection of POLR2K 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).

POLR2K (T-14) is also recommended for detection of POLR2K in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for POLR2K siRNA (h): sc-62836, POLR2K siRNA (m): sc-62837, POLR2K shRNA Plasmid (h): sc-62836-SH, POLR2K shRNA Plasmid (m): sc-62837-SH, POLR2K shRNA (h) Lentiviral Particles: sc-62836-V and POLR2K shRNA (m) Lentiviral Particles: sc-62837-V.

Molecular Weight of POLR2K: 7 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.