

POLR2J1/2/3 (E-12): sc-109854

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. POLR2J (DNA-directed RNA polymerase II subunit J) exist as three variants POLR2J1 (RPB11-a), POLR2J2 (RPB11-b1) and POLR2J3 (RPB11-b2), of nuclear protein belonging to the eukaryotic RPB11 RNA polymerase subunit family. POLR2J1/2/3 are DNA-dependent RNA polymerases that catalyze the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates. They are also part of the core element with the central large cleft.

REFERENCES

1. Bushnell, D.A., et al. 2004. Structural basis of transcription: an RNA polymerase II-TFIIB cocystal at 4.5 Angstroms. *Science* 303: 983-988.
2. Palangat, M., et al. 2004. Downstream DNA selectively affects a paused conformation of human RNA polymerase II. *J. Mol. Biol.* 341: 429-442.
3. 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.
4. Cabart, P., et al. 2004. BRCA1 cooperates with NUFIP and P-TEFb to activate transcription by RNA polymerase II. *Oncogene* 23: 5316-5329.
5. Shpakovski, D.G., Shematorova, E.K. and Shpakovski, G.V. 2004. New genes on human chromosome 7: bioinformatic analysis of a gene cluster from the POLR2J family. *Bioorg. Khim.* 30: 621-625.
6. Meka, H., Werner, F., Cordell, S.C., Onesti, S. and Brick, P. 2005. Crystal structure and RNA binding of the Rpb4/Rpb7 subunits of human RNA polymerase II. *Nucleic Acids Res.* 33: 6435-6444.
7. Ujvári, A. and Luse, D.S. 2006. RNA emerging from the active site of RNA polymerase II interacts with the Rpb7 subunit. *Nat. Struct. Mol. Biol.* 13: 49-54.
8. Cojocar, M., Jeronimo, C., Forget, D., Bouchard, A., Bergeron, D., Côte, P., Poirier, G.G., Greenblatt, J. and Coulombe, B. 2007. Genomic location of the human RNA polymerase II general machinery: evidence for a role of TFIIF and Rpb7 at both early and late stages of transcription. *Biochem. J.* 409: 139-147.

CHROMOSOMAL LOCATION

Genetic locus: POLR2J/POLR2J2/POLR2J3 (human) mapping to 7q22.1; Polr2j (mouse) mapping to 5 G1.

SOURCE

POLR2J1/2/3 (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of POLR2J1 of human origin.

RESEARCH USE

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

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-109854 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-109854 X, 200 µg/0.1 ml.

APPLICATIONS

POLR2J1/2/3 (E-12) is recommended for detection of POLR2J1, POLR2J2 and POLR2J3 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).

POLR2J1/2/3 (E-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of POLR2J1/2/3: 13 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **POLR2J1/2/3 (G-2): sc-514129**, our highly recommended monoclonal alternative to POLR2J1/2/3 (E-12).