

# POLR2J1/2/3 (G-2): sc-514129

## 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., et al. 2004. New genes on human chromosome 7: bioinformatic analysis of a gene cluster from the POLR2J family. *Bioorg. Khim.* 30: 621-625.

## CHROMOSOMAL LOCATION

Genetic locus: POLR2J/POLR2J2/POLR2J3 (human) mapping to 7q22.1; Polr2j (mouse) mapping to 5 G2.

## SOURCE

POLR2J1/2/3 (G-2) is a mouse monoclonal antibody raised against amino acids 41-117 mapping at the C-terminus of POLR2J1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-514129 X, 200 µg/0.1 ml.

POLR2J1/2/3 (G-2) is available conjugated to agarose (sc-514129 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514129 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514129 PE), fluorescein (sc-514129 FITC), Alexa Fluor® 488 (sc-514129 AF488), Alexa Fluor® 546 (sc-514129 AF546), Alexa Fluor® 594 (sc-514129 AF594) or Alexa Fluor® 647 (sc-514129 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514129 AF680) or Alexa Fluor® 790 (sc-514129 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

POLR2J1/2/3 (G-2) is recommended for detection of POLR2J1, POLR2J2 and POLR2J3 of human origin, and Polr2j of mouse and rat origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Polr2j siRNA (m): sc-152374, Polr2j shRNA Plasmid (m): sc-152374-SH and Polr2j shRNA (m) Lentiviral Particles: sc-152374-V.

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

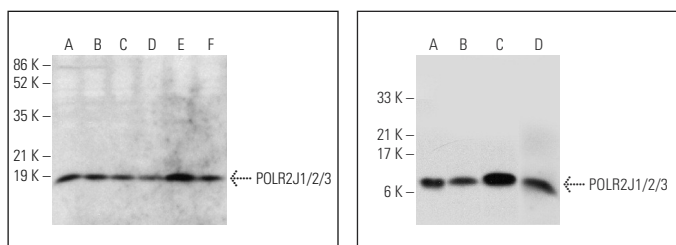
Molecular Weight of POLR2J1/2/3: 13 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Sol8 cell lysate: sc-2249 or A549 cell lysate: sc-2413.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



POLR2J1/2/3 (G-2): sc-514129. Western blot analysis of POLR2J1/2/3 expression in Jurkat (A), NAMALWA (B), CCRF-CEM (C), Ramos (D), NIH/3T3 (E) and WEHI-231 (F) whole cell lysates.

POLR2J1/2/3 (G-2): sc-514129. Western blot analysis of POLR2J1/2/3 expression in HeLa nuclear extract (A) and A549 (B), Sol8 (C) and L8 (D) whole cell lysates.

## 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.