SANTA CRUZ BIOTECHNOLOGY, INC.

POLR3B (G-6): sc-515362



BACKGROUND

RNA polymerase II (Pol II) is a multi-subunit complex responsible for catalyzing the transcription of DNA into RNA. POLR3B (polymerase (RNA) III (DNA directed) polypeptide B), also known as C128 or RPC2, is a 1,133 amino acid protein that localizes to the nucleus and belongs to the RNA polymerase β chain family. Existing as the second largest component of the multi-protein RNA polymerase III (Pol III) complex, POLR3B functions as a DNA-dependent RNA polymerase that specifically catalyzes the transcription of DNA into RNA using ribonucleoside triphosphates as substrates. The gene encoding POLR3B maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and Trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

- Jang, K.L., et al. 1992. The human immunodeficiency virus Tat protein increases the transcription of human Alu repeated sequences by increasing the activity of the cellular transcription factor TFIIIC. J. Acquir. Immune Defic. Syndr. 5: 1142-1147.
- Allen, T.L., et al. 1996. Cytogenetic and molecular analysis in Trisomy 12p. Am. J. Med. Genet. 63: 250-256.

CHROMOSOMAL LOCATION

Genetic locus: POLR3B (human) mapping to 12q23.3; Polr3b (mouse) mapping to 10 C1.

SOURCE

POLR3B (G-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 92-111 near the N-terminus of POLR3B of human origin.

PRODUCT

Each vial contains 200 μg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

POLR3B (G-6) is available conjugated to agarose (sc-515362 AC), 500 μg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515362 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515362 PE), fluorescein (sc-515362 FITC), Alexa Fluor[®] 488 (sc-515362 AF488), Alexa Fluor[®] 546 (sc-515362 AF546), Alexa Fluor[®] 594 (sc-515362 AF594) or Alexa Fluor[®] 647 (sc-515362 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-515362 AF680) or Alexa Fluor[®] 790 (sc-515362 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515362 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

Store at 4° C, **D0 NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

POLR3B (G-6) is recommended for detection of POLR3B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 POLR3B siRNA (h): sc-95786, POLR3B siRNA (m): sc-152377, POLR3B shRNA Plasmid (h): sc-95786-SH, POLR3B shRNA Plasmid (m): sc-152377-SH, POLR3B shRNA (h) Lentiviral Particles: sc-95786-V and POLR3B shRNA (m) Lentiviral Particles: sc-152377-V.

Molecular Weight of POLR3B: 128 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HEK293 whole cell lysate: sc-45136 or Hep G2 cell lysate: sc-2227.

DATA





POLR3B (G-6): sc-515362. Western blot analysis of POLR3B expression in HEL 92.1.7 nuclear extract (**A**) and HeLa (**B**), HEK293 (**C**) and Hep G2 (**D**) whole cell lysates. POLR3B (G-6): sc-515362. Western blot analysis of POLR3B expression in HeLa (\bf{A}), Hep G2 (\bf{B}) and NIH/3T3 (\bf{C}) whole cell lysates.

SELECT PRODUCT CITATIONS

- Finlay-Schultz, J., et al. 2017. Breast cancer suppression by progesterone receptors is mediated by their modulation of estrogen receptors and RNA polymerase III. Cancer Res. 77: 4934-4946.
- Tian, K., et al. 2023. Subcellular localization shapes the fate of RNA polymerase III. Cell Rep. 42: 112941.
- Gao, L., et al. 2024. Selective gene expression maintains human tRNA anticodon pools during differentiation. Nat. Cell Biol. 26: 100-112.

RESEARCH USE

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

PROTOCOLS

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