SANTA CRUZ BIOTECHNOLOGY, INC.

POLR3A (K-12): sc-107058

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RNA polymerase III (Pol III) is a multi-subunit complex responsible for catalyzing the transcription of DNA into RNA. POLR3A (polymerase (RNA) III (DNA directed) polypeptide A), also known as RPC1 or RPC155, is a 1,390 amino acid protein that localizes to the nucleus and belongs to the RNA polymerase β chain family. Existing as the largest and catalytic core component of Pol III, POLR3A functions as a DNA-dependent RNA polymerase that catalyzes the conversion of a nucleoside triphosphate into a diphosphate, thereby transcribing DNA into RNA. The gene encoding POLR3A maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

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4. Kuwana, M., Kimura, K. and Kawakami, Y. 2002. Identification of an immunodominant epitope on RNA polymerase III recognized by systemic sclerosis sera: application to enzyme-linked immunosorbent assay. Arthritis Rheum. 46: 2742-2747.
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6. Natalizio, B.J., Robson-Dixon, N.D. and Garcia-Blanco, M.A. 2009. The carboxyl-terminal domain of RNA polymerase II is not sufficient to enhance the efficiency of pre-mRNA capping or splicing in the context of a different polymerase. J. Biol. Chem. 284: 8692-8702.

CHROMOSOMAL LOCATION

Genetic locus: POLR3A (human) mapping to 10q22.3; Polr3a (mouse) mapping to 14 A3.

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.

SOURCE

POLR3A (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of POLR3A 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-107058 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

POLR3A (K-12) is recommended for detection of POLR3A 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).

POLR3A (K-12) is also recommended for detection of POLR3A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for POLR3A siRNA (h): sc-90684, POLR3A siRNA (m): sc-152376, POLR3A shRNA Plasmid (h): sc-90684-SH, POLR3A shRNA Plasmid (m): sc-152376-SH, POLR3A shRNA (h) Lentiviral Particles: sc-90684-V and POLR3A shRNA (m) Lentiviral Particles: sc-152376-V.

Molecular Weight of POLR3A: 156 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.

PROTOCOLS

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