

Pol III RPC62 (N-18): sc-69535

BACKGROUND

RNA polymerase III (Pol III) is a multi-subunit complex responsible for catalyzing the transcription of DNA into RNA. Pol III RPC62, also known as POLR3C (polymerase (RNA) III (DNA directed) polypeptide C), RPC3 or RPC62, is a 534 amino acid protein that localizes to the nucleus and belongs to the eukaryotic RPC3/POLR3C RNA polymerase subunit family. Existing as a component of the Pol III complex, Pol III RPC62 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 Pol III RPC62 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

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 TFIIC. *J. Acquir. Immune Defic. Syndr.* 5: 1142-1147.
- Maruyama, K., et al. 1994. Oligo-capping: a simple method to replace the cap structure of eukaryotic mRNAs with oligoribonucleotides. *Gene* 138: 171-174.
- Wang, Z., et al. 1997. Three human RNA polymerase III-specific subunits form a subcomplex with a selective function in specific transcription initiation. *Genes Dev.* 11: 1315-1326.
- Hsieh, Y.J., et al. 1999. Cloning and characterization of two evolutionarily conserved subunits (TFIIC102 and TFIIC63) of human TFIIC and their involvement in functional interactions with TFIIB and RNA polymerase III. *Mol. Cell. Biol.* 19: 4944-4952.
- Hsieh, Y.J., et al. 1999. The TFIIC90 subunit of TFIIC interacts with multiple components of the RNA polymerase III machinery and contains a histone-specific acetyltransferase activity. *Mol. Cell. Biol.* 19: 7697-7704.
- Kuwana, M., et al. 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.
- Hu, P., et al. 2002. Characterization of human RNA polymerase III identifies orthologues for *Saccharomyces cerevisiae* RNA polymerase III subunits. *Mol. Cell. Biol.* 22: 8044-8055.

CHROMOSOMAL LOCATION

Genetic locus: POLR3C (human) mapping to 1q21.1; Polr3c (mouse) mapping to 3 F2.1.

SOURCE

Pol III RPC62 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Pol III RPC62 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-69535 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-69535 X, 200 µg/0.1 ml.

APPLICATIONS

Pol III RPC62 (N-18) is recommended for detection of Pol III RPC62 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).

Pol III RPC62 (N-18) is also recommended for detection of Pol III RPC62 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Pol III RPC62 siRNA (h): sc-76188, Pol III RPC62 siRNA (m): sc-76189, Pol III RPC62 shRNA Plasmid (h): sc-76188-SH, Pol III RPC62 shRNA Plasmid (m): sc-76189-SH, Pol III RPC62 shRNA (h) Lentiviral Particles: sc-76188-V and Pol III RPC62 shRNA (m) Lentiviral Particles: sc-76189-V.

Pol III RPC62 (N-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Pol III RPC62: 61 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.