

POLR3G Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP16982b**Specification**

POLR3G Antibody (C-term) Blocking Peptide - Product InformationPrimary Accession [O15318](#)**POLR3G Antibody (C-term) Blocking Peptide - Additional Information****Gene ID** 10622**Other Names**

DNA-directed RNA polymerase III subunit RPC7, RNA polymerase III subunit C7, DNA-directed RNA polymerase III subunit G, RNA polymerase III 32 kDa subunit, RPC32, POLR3G

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

POLR3G Antibody (C-term) Blocking Peptide - Protein Information**Name** POLR3G ([HGNC:30075](#))**Function**

DNA-dependent RNA polymerase catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates (PubMed:20413673, PubMed:35637192, PubMed:34675218, PubMed:33558764). Specific peripheric component of RNA polymerase III (Pol III) which synthesizes small non-coding RNAs including 5S rRNA, snRNAs, tRNAs and miRNAs from at least 500 distinct genomic loci (PubMed:20413673, PubMed:20154270, PubMed:35637192). Acts as a long tether that bridges POLR3C/RPC3-POLR3F/RPC6-POLR3G/RPC7 heterotrimer and the mobile stalk of Pol III, coordinating the dynamics of Pol III stalk and clamp modules during the transition from apo to elongation state. Pol III exists as two alternative complexes defined by the mutually exclusive incorporation of subunit POLR3G/RPC7alpha or POLR3GL/RPC7beta. POLR3G/RPC7alpha modulates Pol III transcriptome by specifically enhancing the transcription of snaR-A non-coding RNAs. At resting state, occupies the active site of apo Pol III and keeps Pol III in an autoinhibitory

mode, preventing non-specific transcription (PubMed:33558766, PubMed:33558764, PubMed:35637192). Pol III plays a key role in sensing and limiting infection by intracellular bacteria and DNA viruses. Acts as a nuclear and cytosolic DNA sensor involved in innate immune response. Can sense non-self dsDNA that serves as template for transcription into dsRNA. The non-self RNA polymerase III transcripts, such as Epstein-Barr virus-encoded RNAs (EBERs), induce type I interferon and NF-kappa-B through the RIG-I pathway (PubMed:19609254, PubMed:19631370).

Cellular Location

Nucleus. Cytoplasm {ECO:0000250|UniProtKB:Q6NXY9}. Note=Excluded from nucleoli (PubMed:21898682). In zygotes and the 2-cell stage embryos, mainly in the cytoplasm. Starts to localize to the nucleus in the 8-16 cell stage embryo and early blastocysts (By similarity) {ECO:0000250|UniProtKB:Q6NXY9, ECO:0000269|PubMed:21898682}

Tissue Location

Barely detectable in differentiated tissues. Expressed in embryonic stem cells and in other dividing cells, such as some tumor cell lines.

POLR3G Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

POLR3G Antibody (C-term) Blocking Peptide - Images

POLR3G Antibody (C-term) Blocking Peptide - Background

DNA-dependent RNA polymerase catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates. Specific peripheric component of RNA polymerase III which synthesizes small RNAs, such as 5S rRNA and tRNAs. May direct with other members of the RPC3/POLR3C-RPC6/POLR3F-RPC7/POLR3G subcomplex RNA Pol III binding to the TFIIB-DNA complex via the interactions between TFIIB and POLR3F. May be involved either in the recruitment and stabilization of the subcomplex within RNA polymerase III, or in stimulating catalytic functions of other subunits during initiation. Plays a key role in sensing and limiting infection by intracellular bacteria and DNA viruses. Acts as nuclear and cytosolic DNA sensor involved in innate immune response. Can sense non-self dsDNA that serves as template for transcription into dsRNA. The non-self RNA polymerase III transcripts, such as Epstein-Barr virus-encoded RNAs (EBERs) induce type I interferon and NF-Kappa-B through the RIG-I pathway.

POLR3G Antibody (C-term) Blocking Peptide - References

Ablasser, A., et al. Nat. Immunol. 10(10):1065-1072(2009)Chiu, Y.H., et al. Cell 138(3):576-591(2009)Oh, J.H., et al. Mamm. Genome 16(12):942-954(2005)Hu, P., et al. Mol. Cell. Biol. 22(22):8044-8055(2002)Wang, Z., et al. Genes Dev. 11(10):1315-1326(1997)