

POLR3B Antibody (N-term) Blocking peptide
Synthetic peptide
Catalog # BP13819a**Specification**

POLR3B Antibody (N-term) Blocking peptide - Product InformationPrimary Accession [Q9NW08](#)**POLR3B Antibody (N-term) Blocking peptide - Additional Information**

Gene ID 55703

Other Names

DNA-directed RNA polymerase III subunit RPC2, RNA polymerase III subunit C2, C128, DNA-directed RNA polymerase III 1276 kDa polypeptide, DNA-directed RNA polymerase III subunit B, POLR3B

Target/Specificity

The synthetic peptide sequence used to generate the antibody AP13819a was selected from the N-term region of POLR3B. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

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.

POLR3B Antibody (N-term) Blocking peptide - Protein InformationName POLR3B ([HGNC:30348](#))**Function**

Catalytic core component of RNA polymerase III (Pol III), a DNA-dependent RNA polymerase which synthesizes small non-coding RNAs using the four ribonucleoside triphosphates as substrates. Synthesizes 5S rRNA, snRNAs, tRNAs and miRNAs from at least 500 distinct genomic loci (PubMed: [20413673](http://www.uniprot.org/citations/20413673), PubMed: [33558766](http://www.uniprot.org/citations/33558766)). Pol III-mediated transcription cycle proceeds through transcription initiation, transcription elongation and transcription termination stages. During transcription initiation, Pol III is recruited to DNA promoters type I, II or III with the help of general transcription factors and other specific initiation factors. Once the polymerase has escaped from the promoter it enters the elongation phase during which RNA is actively polymerized, based on complementarity with the template DNA strand. Transcription termination involves the release of the RNA transcript and polymerase

from the DNA (PubMed:20413673, PubMed:33335104, PubMed:33674783, PubMed:34675218, PubMed:33558764, PubMed:33558766). Forms Pol III active center together with the largest subunit POLR3A/RPC1. A single-stranded DNA template strand of the promoter is positioned within the central active site cleft of Pol III. Appends one nucleotide at a time to the 3' end of the nascent RNA, with POLR3A/RPC1 contributing a Mg(2+)-coordinating DxGDG motif, and POLR3B/RPC2 participating in the coordination of a second Mg(2+) ion and providing lysine residues believed to facilitate Watson-Crick base pairing between the incoming nucleotide and template base. Typically, Mg(2+) ions direct a 5' nucleoside triphosphate to form a phosphodiester bond with the 3' hydroxyl of the preceding nucleotide of the nascent RNA, with the elimination of pyrophosphate (PubMed:19609254, PubMed:33335104, PubMed:33674783, PubMed:34675218, PubMed:33558764, PubMed:20413673). 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.

Cellular Location

Nucleus. Cytoplasm, cytosol

POLR3B Antibody (N-term) Blocking peptide - Protocols

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

- [Blocking Peptides](#)

POLR3B Antibody (N-term) Blocking peptide - Images

POLR3B Antibody (N-term) Blocking peptide - Background

DNA-dependent RNA polymerase catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates. Second largest core component of RNA polymerase III which synthesizes small RNAs, such as 5S rRNA and tRNAs. Proposed to contribute to the polymerase catalytic activity and forms the polymerase active center together with the largest subunit. Pol III is composed of mobile elements and RPC2 is part of the core element with the central large cleft and probably a clamp element that moves to open and close the cleft (By similarity). 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.

POLR3B Antibody (N-term) Blocking peptide - References

Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :Ablasser, A., et al. Nat. Immunol. 10(10):1065-1072(2009)Shen, E., et al. Exp. Cell Res. 315(7):1100-1116(2009)Yee, N.S., et al. PLoS Biol. 5 (11), E312 (2007) :Seshadri, S., et al. BMC Med. Genet. 8 SUPPL 1, S15 (2007) :