

POLR2B Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP14739c**Specification**

POLR2B Antibody (Center) Blocking Peptide - Product InformationPrimary Accession [P30876](#)**POLR2B Antibody (Center) Blocking Peptide - Additional Information****Gene ID** 5431**Other Names**

DNA-directed RNA polymerase II subunit RPB2, DNA-directed RNA polymerase II 140 kDa polypeptide, DNA-directed RNA polymerase II subunit B, RNA polymerase II subunit 2, RNA polymerase II subunit B2, POLR2B

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.

POLR2B Antibody (Center) Blocking Peptide - Protein Information**Name** POLR2B ([HGNC:9188](#))**Function**

Catalytic core component of RNA polymerase II (Pol II), a DNA-dependent RNA polymerase which synthesizes mRNA precursors and many functional non-coding RNAs using the four ribonucleoside triphosphates as substrates (PubMed:[9852112](http://www.uniprot.org/citations/9852112), PubMed:[27193682](http://www.uniprot.org/citations/27193682), PubMed:[30190596](http://www.uniprot.org/citations/30190596)) (By similarity). Pol II-mediated transcription cycle proceeds through transcription initiation, transcription elongation and transcription termination stages. During transcription initiation, Pol II pre- initiation complex (PIC) is recruited to DNA promoters, with focused- type promoters containing either the initiator (Inr) element, or the TATA-box found in cell-type specific genes and dispersed-type promoters that often contain hypomethylated CpG islands usually found in housekeeping genes. 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:[9852112](http://www.uniprot.org/citations/9852112), PubMed:[27193682](http://www.uniprot.org/citations/27193682), PubMed:[30190596](http://www.uniprot.org/citations/30190596))

href="http://www.uniprot.org/citations/30190596" target="_blank">30190596). Forms Pol II active center together with the largest subunit POLR2A/RPB1. Appends one nucleotide at a time to the 3' end of the nascent RNA, with POLR2A/RPB1 most likely contributing a Mg(2+)-coordinating DxGDD motif, and POLR2A/RPB1 most likely contributing a Mg(2+)-coordinating DxGDD motif, and POLR2B/RPB2 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. The reversible pyrophosphorolysis can occur at high pyrophosphate concentrations (PubMed:9852112, PubMed:30190596) (By similarity). Can proofread the nascent RNA transcript by means of a 3' -> 5' exonuclease activity. If a ribonucleotide is mis-incorporated, backtracks along the template DNA and cleaves the phosphodiester bond releasing the mis-incorporated 5'-ribonucleotide (PubMed:8381534) (By similarity).

Cellular Location

Nucleus.

POLR2B Antibody (Center) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

POLR2B Antibody (Center) Blocking Peptide - Images

POLR2B Antibody (Center) Blocking Peptide - Background

This gene encodes the second largest subunit of RNA polymerase II, the polymerase responsible for synthesizing messenger RNA in eukaryotes. This subunit, in combination with at least two other polymerase subunits, forms a structure within the polymerase that maintains contact in the active site of the enzyme between the DNA template and the newly synthesized RNA. [provided by RefSeq].

POLR2B Antibody (Center) Blocking Peptide - References

Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :Michiels, S., et al. Carcinogenesis 30(5):763-768(2009) Tu, S., et al. Nat. Struct. Mol. Biol. 15(4):419-421(2008) Lee, J.H., et al. Mol. Cell. Biol. 28(2):609-618(2008) Yamaguchi, Y., et al. Genes Cells 12(7):863-875(2007)