

Product Name: Rpb1 (phospho Ser1619) Rabbit Polyclonal Antibody
Catalog #: APRab05384

Summary

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|------------------------|---|
| Production Name | Rpb1 (phospho Ser1619) Rabbit Polyclonal Antibody |
| Description | Rabbit Polyclonal Antibody |
| Host | Rabbit |
| Application | ELISA,IF,IHC,WB |
| Reactivity | Human,Mouse,Rat,Monkey |

Performance

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|---------------------|--|
| Conjugation | Unconjugated |
| Modification | Phospho Antibody |
| Isotype | IgG |
| Clonality | Polyclonal |
| Form | Liquid |
| Storage | Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles. |
| Buffer | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N. |
| Purification | Affinity purification |

Immunogen

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|--------------------------|--|
| Gene Name | POLR2A POLR2A; POLR2; DNA-directed RNA polymerase II subunit RPB1; RNA polymerase II subunit B1; DNA-directed RNA polymerase II subunit A; DNA-directed RNA polymerase III largest subunit; RNA-directed RNA polymerase II subunit RPB1 |
| Alternative Names | |
| Gene ID | 5430.0 |
| SwissProt ID | P24928.The antiserum was produced against synthesized peptide derived from human POLR2A around the phosphorylation site of Ser1619. AA range:1585-1634 |

Application

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| Dilution Ratio | WB 1:500 - 1:2000. IHC 1:100 - 1:300. IF 1:200 - 1:1000. ELISA: 1:10000. Not yet tested in |
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other applications.

Molecular Weight 250kD

Background

This gene encodes the largest subunit of RNA polymerase II, the polymerase responsible for synthesizing messenger RNA in eukaryotes. The product of this gene contains a carboxy terminal domain composed of heptapeptide repeats that are essential for polymerase activity. These repeats contain serine and threonine residues that are phosphorylated in actively transcribing RNA polymerase. In addition, this subunit, in combination with several other polymerase subunits, forms the DNA binding domain of the polymerase, a groove in which the DNA template is transcribed into RNA. [provided by RefSeq, Jul 2008],catalytic activity:Nucleoside triphosphate + RNA(n) = diphosphate + RNA(n+1),.function:DNA-dependent RNA polymerase catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates. Largest and catalytic component of RNA polymerase II which synthesizes mRNA precursors and many functional non-coding RNAs. Forms the polymerase active center together with the second largest subunit. Pol II is the central component of the basal RNA polymerase II transcription machinery. It is composed of mobile elements that move relative to each other. RPB1 is part of the core element with the central large cleft, the clamp element that moves to open and close the cleft and the jaws that are thought to grab the incoming DNA template. At the start of transcription, a single stranded DNA template strand of the promoter is positioned within the central active site cleft of Pol II. A bridging helix emanates from RPB1 and crosses the cleft near the catalytic site and is thought to promote translocation of Pol II by acting as a ratchet that moves the RNA-DNA hybrid through the active site by switching from straight to bent conformations at each step of nucleotide addition. During transcription elongation, Pol II moves on the template as the transcript elongates. Elongation is influenced by the phosphorylation status of the C-terminal domain (CTD) of Pol II largest subunit (RPB1), which serves as a platform for assembly of factors that regulate transcription initiation, elongation, termination and mRNA processing. Acts as a RNA-dependent RNA polymerase when associated with small delta antigen of Hepatitis delta virus, acting both as a replicate and transcriptase for the viral RNA circular genome.,miscellaneous:The binding of ribonucleoside triphosphate to the RNA polymerase II transcribing complex probably involves a two-step mechanism. The initial binding seems to occur at the entry (E) site and involves a magnesium ion temporarily coordinated by three conserved aspartate residues of the two largest RNA Pol II subunits. The ribonucleoside triphosphate is transferred by a rotation to the nucleotide addition (A) site for pairing with the template DNA. The catalytic A site involves three conserved aspartate residues of the RNA Pol II largest subunit which permanently coordinate a second magnesium ion.,PTM:The tandem 7 residues repeats in the C-terminal domain (CTD) can be highly phosphorylated. The phosphorylation activates Pol II. Phosphorylation occurs mainly at residues 'Ser-2' and 'Ser-5' of the heptapeptide repeat. The phosphorylation state is believed to result from the balanced action of site-specific CTD kinases and phosphatases, and a "CTD code" that specifies the position of Pol II within the transcription cycle has been proposed.,similarity:Belongs to the RNA polymerase beta' chain family.,similarity:Contains 1 C2H2-type zinc finger.,subunit:Component of the RNA polymerase II (Pol II) complex consisting of 12 subunits (By

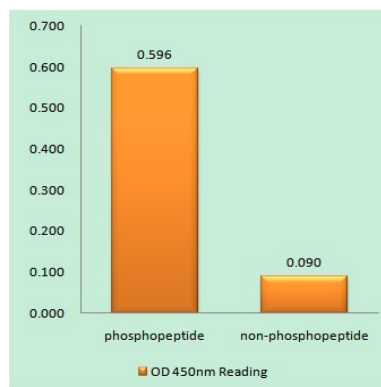
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similarity). The phosphorylated C-terminal domain interacts with FBNP3 and SYNCRIP. Interacts with SAFB/SAFB1. Interacts with CCNL1 and MYO1C (By similarity). Interacts with CCNL2 and SFRS19. Component of a complex which is at least composed of HTATSF1/Tat-SF1, the P-TEFb complex components CDK9 and CCNT1, RNA polymerase II, SUPT5H, and NCL/nucleolin. Interacts with PAF1.,

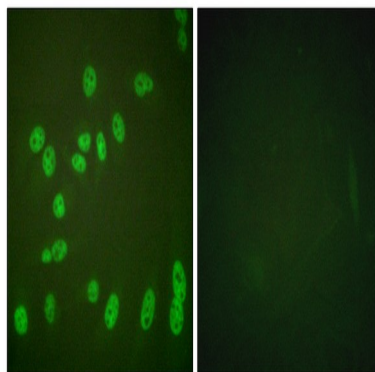
Research Area

Purine metabolism;Pyrimidine metabolism;RNA polymerase;Huntington's disease;

Image Data

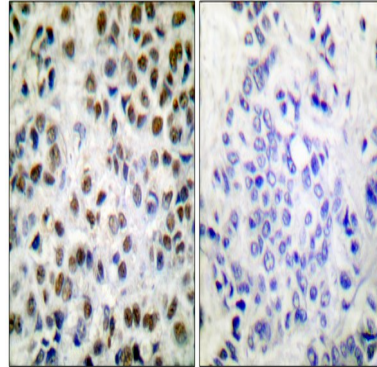


Enzyme-Linked Immunosorbent Assay (Phospho-ELISA) for Immunogen Phosphopeptide (Phospho-left) and Non-Phosphopeptide (Phospho-right), using POLR2A (Phospho-Ser1619) Antibody

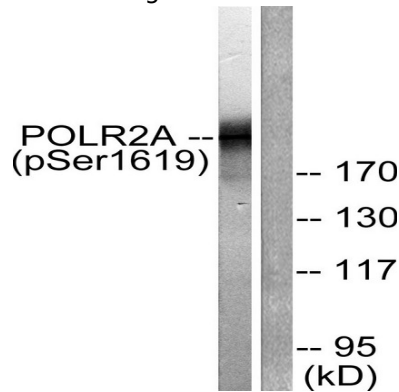


Immunofluorescence analysis of HeLa cells treated with PMA 125ng/ml 30', using POLR2A (Phospho-Ser1619) Antibody. The picture on the right is blocked with the phospho peptide.

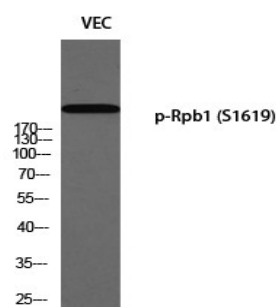
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Immunohistochemistry analysis of paraffin-embedded human breast carcinoma, using POLR2A (Phospho-Ser1619) Antibody. The picture on the right is blocked with the phospho peptide.



Western blot analysis of lysates from COS7 cells treated with EGF 200ng/ml 30', using POLR2A (Phospho-Ser1619) Antibody. The lane on the right is blocked with the phospho peptide.



Western blot analysis of VEC using p-Rpb1 (S1619) antibody. Antibody was diluted at 1:2000 cells nucleus extracted by Minute TM Cytoplasmic and Nuclear Fractionation kit (SC-003, Invent biotech, MN, USA).

Note

For research use only.