Rpb1 (Phospho Ser1619) Rabbit pAb

CatalogNo: YP0871 Orthogonal Validated

Key Features

Host Species
- Rabbit

Reactivity
- Human,Mouse,Rat,Monkey

Applications
- WB,IHC,IF,ELISA

MW
- 250kD (Observed)

Isotype
- IgG

Storage

Storage*	-15°C to -25°C/1 year (Do not lower than -25°C)
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

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

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	The antiserum was produced against synthesized peptide derived from human POLR2A around the phosphorylation site of Ser1619. AA range:1585-1634

Specificity	Phospho-Rpb1 (S1619) Polyclonal Antibody detects endogenous levels of Rpb1 protein only when phosphorylated at S1619.The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):PTsPS

Target Information

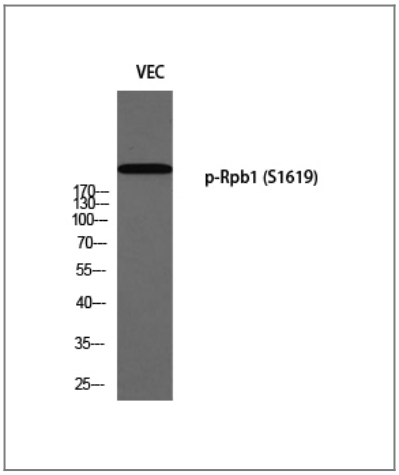
Gene name	POLR2A
Protein Name	DNA-directed RNA polymerase II subunit RPB1

Organism	Gene ID	UniProt ID
Human	5430;	P24928;
Mouse	20020;	P08775;

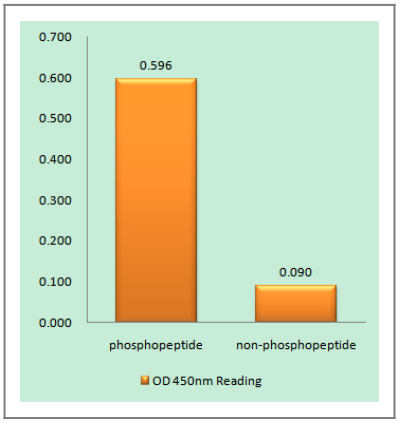
Cellular Localization	Nucleus . Cytoplasm . Chromosome . Hypophosphorylated form is mainly found in the cytoplasm , while the hyperphosphorylated and active form is nuclear (PubMed:26566685) . Co-localizes with kinase SRPK2 and helicase DDX23 at chromatin loci where unscheduled R-loops form (PubMed:28076779) . .
Tissue specificity	Fetal pancreas ,Testis ,

Function	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 nucelotide 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 heptapepdtide repeat. The phosphorylation state is believed to result from the balanced action of site-specific CTD kinases and phosphataes , 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 similarity) . The phosphorylated C-terminal domain interacts with FNBP3 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. ,

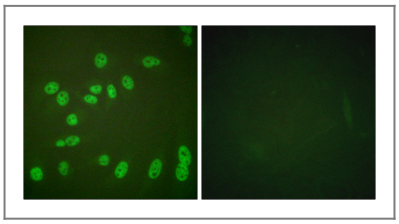
Validation Data



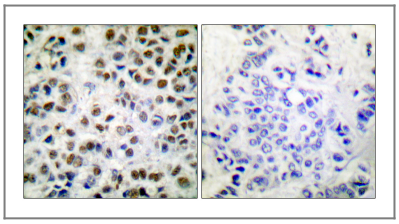
Western blot analysis of VEC using p-Rpb1 (S1619) antibody. Antibody was diluted at 1:2000 cells nucleus extracted by Minute TM Cytoplasmic and Nuclear Fractionation kit (SC-003,Inventbiotech,MN,USA).



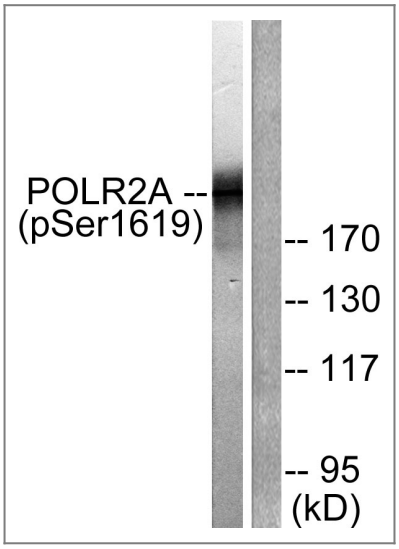
Enzyme-Linked Immunosorbent Assay (Phospho-ELISA) for Immunogen Phosphopeptide (Phospho-left) and Non-Phosphopeptide (Phospho-right), using POLR2A (Phospho-Ser1619) Antibody



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.



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.

Contact information

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Please scan the QR code to access additional product information:
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