

Rat anti-Human RNA pol II CTD phospho Ser5 Monoclonal Antibody | anti-Ser5 antibody

RNA pol II CTD phospho Ser5 antibody (mAb)(Clone 3E8)

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA59975	Rat	Human	Western Blot, Immunoprecipitation, Immunofluorescence, Immunocytochemistry, Chromatin Immunoprecipitation, Immunoprecipitation, Chromatin Immunoprecipitation, Immunoprecipitation

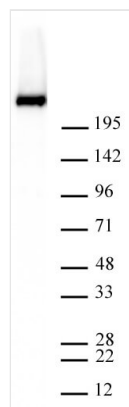
PRODUCT SYNONYMS

RNA pol II CTD phospho Ser5; Monoclonal Antibody; RNA pol II CTD phospho Ser5 antibody (mAb)(Clone 3E8); RPB1; RPO2; POLR2; POLRA; RPBh1; RPOL2; RplILS; hSRPB1; hRPB220; anti-Ser5 antibody

PRODUCT SPECIFICATIONS

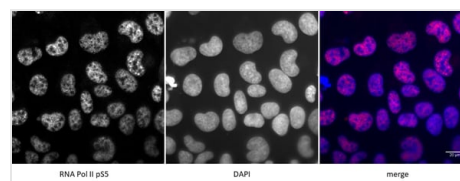
Host	Rat
Reactivity	Human
Clonality	Monoclonal
Isotype	IgG2a
Clone Number	3E8
Purity/Purification	Protein G Chromatography
Form/Format	Supplied in PBS containing 0.05% sodium azide. Sodium azide is highly toxic.
Concentration	1ug/ul (varies by lot)
Applicable Applications for anti-Ser5 antibody	WB (Western Blot), IP (Immunoprecipitation), IF (Immunofluorescence), ICC (Immunocytochemistry), ChIP (Chromatin immunoprecipitation), ChIP (Chromatin immunoprecipitation)
Immunogen	This RNA pol II CTD phospho Ser5 antibody was raised against a peptide containing the RNA pol II CTD sequence phosphorylated at serine 5.
Preparation and Storage	Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20 degree C for up to 2 years. Keep all reagents on ice when not in storage.1ug/ul

IMAGES



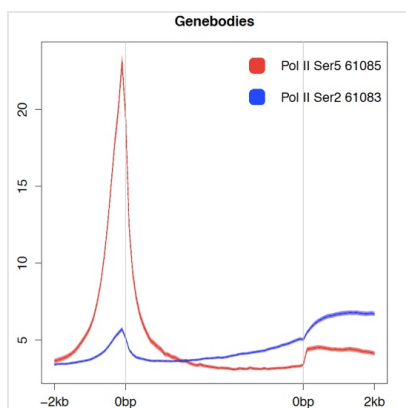
WB (Western Blot)

RNA pol II CTD phospho Ser5 mAb tested by Western blot. 20 ug of HeLa nuclear extract was run on SDS-PAGE and probed with antibody at 2 ug/ml.



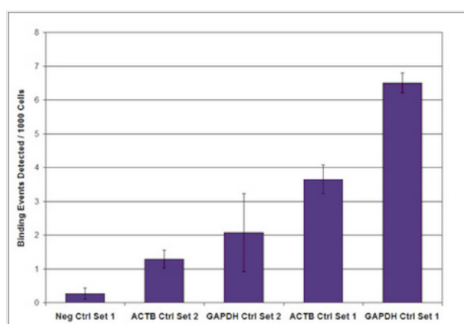
IF (Immunofluorescence)

Detection of RNA Pol II pS5 by immunofluorescence U2OS cells were stained with RNA Pol II pS5 antibody at a dilution of 1:500. Left panel: RNA Pol II pS5 antibody staining. Middle panel:DAPI. Right panel: merge.



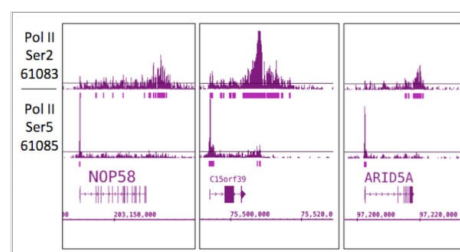
ChIP (Chromatin Immunoprecipitation)

RNA pol II CTD phospho Ser5 antibody (mAb) tested by ChIP-Seq. ChIP-Seq was performed in a bladder cancer cell line using RNA pol II CTD phospho Ser5 antibody (Cat. No. AAA59975) and RNA pol II CTD phospho Ser2 antibody (Cat. No. The average ChIP-Seq signal across all genes is shown in the graphic. As expected Pol II phosphoserine 5 is enriched at promoters and phosphoserine 2 is enriched toward the 3' end of the genes.



ChIP (Chromatin Immunoprecipitation)

RNA pol II CTD phospho Ser5 antibody (mAb) tested by ChIP. Chromatin immunoprecipitation (ChIP) was performed using the ChIP-IT® High Sensitivity Kit (Cat. No. please inquire) with 10 ug of chromatin from human myeloma LP1 cells and 10 ug RNA pol II CTD phospho Ser5 antibody. ChIP DNA was used in qPCR with the control primer pairs or gene-specific primer pairs as indicated. Data are presented as Binding Events Detected per 1000 Cells using Active Motif's Epigenetic Services normalization scheme which accounts for primer efficiency and the amount of chromatin used in the ChIP reaction.



ChIP (Chromatin Immunoprecipitation)

RNA pol II CTD phospho Ser5 antibody (mAb) tested by ChIP-Seq. ChIP was performed using the ChIP-IT® High Sensitivity Kit (Cat. No. please inquire) with chromatin from 2.3 million HL60 cells and 5 ug of antibody. ChIP DNA was sequenced on the Illumina HiSeq and 23 million sequence tags were mapped to identify RNA pol II phospho Ser5 binding. Data is compared to ChIP-Seq data using a phospho Ser2 antibody. ChIP-Seq data from three specific genes is shown as an example. The Pol II phospho Ser5 antibody detects polymerase more at the 5' end of the genes and the phospho Ser2 antibody detects Pol II more toward the 3' end of the genes.

ADDITIONAL INFORMATION

Related Product Information for anti-Ser5 antibody

Background: RNA pol II (RNA polymerase II) is responsible for synthesizing messenger RNA in eukaryotes. RNA pol II 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, RNA pol II, in combination with several other polymerase subunits, form the DNA binding domain of the polymerase, a groove in which the DNA template is transcribed into RNA. During the transcription cycle, the CTD of the large subunit of RNA pol II is reversibly phosphorylated. RNA pol II containing unphosphorylated CTD is recruited to the promoter, whereas the hyperphosphorylated CTD form is involved in active transcription. Phosphorylation occurs at two sites within the heptapeptide repeat, at serine 2, serine 5 and serine 7. RNA pol II Serine 5 phosphorylation is confined to promoter regions and is necessary for the initiation of transcription.

Product Categories/Family for anti-Ser5 antibody

Primary Antibodies

NCBI AND UNIPROT INFORMATION

NCBI GI #	4505939
NCBI GeneID	5430
NCBI Accession #	NP_000928; AB_2687451

NCBI GenBank Nucleotide #	NM_000937
UniProt Accession #	P24928 ; Q6NX41 ; A6NN93 ; B9EH88
Molecular Weight	240 kDa
NCBI Official Full Name	DNA-directed RNA polymerase II subunit RPB1
NCBI Official Synonym Full Names	polymerase (RNA) II (DNA directed) polypeptide A, 220kDa
NCBI Official Symbol	POLR2A
NCBI Official Synonym Symbols	RPB1; RPO2; POLR2; POLRA; RPBh1; RPOL2; RplILS; hsRPB1; hRPB220
NCBI Protein Information	DNA-directed RNA polymerase II subunit RPB1; DNA-directed RNA polymerase II largest subunit, RNA polymerase II 220 kd subunit; DNA-directed RNA polymerase II subunit A; DNA-directed RNA polymerase III largest subunit; RNA polymerase II subunit B1; RNA-dir
UniProt Protein Name	DNA-directed RNA polymerase II subunit RPB1
UniProt Gene Name	POLR2A
UniProt Synonym Gene Names	POLR2; RNA polymerase II subunit B1
UniProt Entry Name	RPB1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/monoclonal/rna-pol-ii-ctd-phospho-ser5-antibody-clone-3e8-western-blot-immunoprecipitation-immunofluorescence-immunocytochemistry-chromatin-immunoprecipitation-chromatin-immunoprecipitation-elisa/59975>