

U-Blot® Phospho-RNA Polymerase II CTD Repeat YSPTSPS (Ser5) Rabbit mAb (WT9096)

User Manual

General Information

Product name	U-Blot® Phospho-RNA Polymerase II CTD Repeat YSPTSPS (Ser5) Rabbit mAb
Product No.	WT9096
Clonality	Recombinant monoclonal
Clone Number	W-R67
Alternative name	RPO21, RPB1, RPB220, SUA8

Key Features

Target	Phospho-RNA polymerase II CTD repeat YSPTSPS(Ser5)
Reactivity	Human, Rat
Applications	WB
MW(Calculated)	192 kDa
MW(Observed)	270 kDa
Host Species	Rabbit
Isotype	IgG
Conjugate	Unconjugated
Modification	Phosphorylation
Modification Site	Ser5
Purification	Protein A affinity purification
Immunogen	Polypeptide
Specificity	Specific for RNA Polymerase II only when phosphorylated at Ser5 of the CTD repeat

Storage Information

Storage	Store at -20°C. Avoid repeated freeze-thaw cycles
Stability	Stable for 12 months from date of receipt / reconstitution.
Formulation	PBS, Glycerol, BSA

Product Usage Information

Applications	Dilution	Recommended Species
WB	1:1000-3000	Human, Rat

Target Information

Gene name	POLR2A
Protein name	DNA-directed RNA polymerase II subunit RPB1
Organism	Human
Gene ID	5430
SwissProt	P04050

Background

RNA polymerase II (RNAPII) is a large multi-protein complex that functions as a DNA-dependent RNA polymerase, catalyzing the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates. The largest subunit, RNAPII subunit B1 (Rpb1), also known as RNAPII subunit A (POLR2A), contains a unique heptapeptide sequence (Tyr1,Ser2,Pro3,Thr4,Ser5,Pro6,Ser7), which is repeated up to 52 times in the carboxy-terminal domain (CTD) of the protein. This CTD heptapeptide repeat is subject to multiple post translational modifications, which dictate the functional state of the polymerase complex. proteins to the transcribed gene. During transcription initiation, RNAPII contains a hypophosphorylated CTD and is recruited to gene promoters through interactions with DNA-bound transcription factors and the Mediator complex.

The escape of Phosphorylation of the CTD during the active transcription cycle integrates transcription with chromatin remodeling and nascent RNA processing by regulating the recruitment of chromatin modifying enzymes and RNA processing. RNAPII from gene promoters requires phosphorylation at Ser5 by CDK7, the catalytic subunit of transcription factor IIH (TFIIH).

Cellular Localization

Nucleus

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