



Swiss-Prot No.:	P24928
Altermname:	POLR2A
Storage/Stability:	Store at -20°C. Avoid freeze / thaw cycles.
Immunogen:	Recombinant fusion protein containing a sequence corresponding to amino acids 1-260 of human POLR2A (NP_000928.1).
Purification:	Affinity purified
Reactivity:	Human,Mouse,Rat
Other Names:	RPB1; RPO2; POLR2; POLRA; RPBh1; RPOL2; RplIIS; hsRPB1; hRPB220
Cellular localization:	Cytoplasm, DNA-directed RNA polymerase, Nucleus
	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

Relevance:	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. Regulation of gene expression levels depends on the balance between methylation and acetylation levels of the CTD-lysines. Initiation or early elongation steps of transcription of growth-factors-induced immediate early genes are regulated by the acetylation status of the CTD (PubMed:24207025). Methylation and dimethylation have a repressive effect on target genes expression.
Source:	Rabbit
Antibody type:	Polyclonal antibody
Isotype:	Rabbit IgG
Molecular Weight:	250kDa
Preservative:	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Recommended Dilutions:	WB 1:500 - 1:2000; IF 1:50 - 1:200(Optimal dilutions should be determined by the end user)