Active Recombinant Human POLR2A, CT Domain

Cat. No. POLR2A-1149H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	
Species	Human
Source	E.coli
Description	The carboxy-terminal repeat domain (CTD) of the largest subunit of RNA Pol II contains tandem repeats of a heptapeptide sequence Tyr-Ser-Pro-Thr-Ser-Pro- Ser which is highly conserved among eukaryotic organisms. There are two forms of RNA Pol II in vivo, designated IIO, which is extensively phosphorylated at the CTD, and IIA, which is not phosphorylated. The IIA form preferentially enters the pre-initiation complex (PIC), whereas IIO is found in the elongating complex. The kinase activity of TFIIH can mediate CTD phosphorylation, although other kinases, including Cdc2, Ctk1, the Srb10-Srb11 kinase-cyclin pair, and PTEFb, have also been implicated in CTD phosphorylation. A phosphatase responsible for the dephosphorylation of the CTD has also been identified. CTD phosphatase activity is regulated by TFIIB and TFIIF. The CTD has also been implicated in pre-mRNA processing, most likely functioning as a platform for the recruitment and assembly of factors involved in premRNA processing. Recombinant CTD is isolated from an E. coli strain that carries the coding sequence of human RNA Pol II carboxyterminal domain under the control of a T7 promoter. CTD has been applied in in vitro transcription assays, splicing assays and protein-protein interaction assays. The purified recombinant protein is greater than 95% homogeneous and contains no detectable protease, DNase, and RNase activity.

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Usage	For in vitro use only.
Form	Liquid. Supplied in 20 mM Tris-HCl pH 8.0, 100 mM KCl, 0.2 mM EDTA, 1 mM DTT and 20% glycerol.
Activity	20 ng are sufficient for reconstituted transcription assays and 100 ng are sufficient for a protein-protein interaction assay.
Purity	> 95% by SDS-PAGE.
Storage	Quality guaranteed for 12 months, Store at -80℃. Avoid freeze / thaw cycles.

GENE INFORMATION

Gene Name	POLR2A polymerase (RNA) II (DNA directed) polypeptide A, 220kDa [Homo sapiens]
Synonyms	POLR2A; polymerase (RNA) II (DNA directed) polypeptide A, 220kDa; RPB1; RPO2; POLR2; POLRA; RPBh1; RPOL2; RpIILS; hsRPB1; hRPB220; MGC75453; DNA-directed RNA polymerase II subunit A; DNA-directed RNA polymerase II A; RNA-directed RNA polymerase II subunit RPB1; DNA-directed RNA polymerase II largest subunit, RNA polymerase II 220 kd subunit; EC 2.7.7.48; EC 2.7.7.6
Gene ID	5430
mRNA Refseq	NM_000937
Protein Refseq	NP_000928
MIM	180660
UniProt ID	P24928

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Chromosome Location	17p13.1
Pathway	Huntington"s disease; Metabolic pathways; Purine metabolism; Purine metabolism; RNA polymerase; DNA Repair; Gene Expression; Influenza Infection; Regulatory RNA pathways; Transcription; mRNA Processing
Function	DNA binding; DNA-directed RNA polymerase activity; RNA-directed RNA polymerase activity; magnesium ion binding; nucleotidyltransferase activity; protein binding; transferase activity; ubiquitin protein ligase binding; zinc ion binding

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