

Active Recombinant Human POLR2A, His-tagged

Cat. No. POLR2A-8461H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human POLR2A, fused with His tag, was expressed in E. coli.
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 TFIIF can mediate CTD phosphorylation , although other kinases, including Cdc2 , Ctk1 , the Srb10-Srb11 kinase-cyclin pair , and P-TEFb , 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 pre-mRNA processing.
Form	20 mM Tris-Cl, pH 7.9, 20% Glycerol, 100 mM KCl, 1 mM DTT and 0.2 mM EDTA
Bio-activity	1 unit equals 1 ng of purified protein. 20 units are sufficient for reconstituted transcription assay and 100 units are sufficient for a protein-protein interaction assay.

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AA Sequence

SPSYSPTSPA YEPRSPGGYT PQSPSYSPTS PSYSPTSPSY SPTSPNYSPT
 SPYSPTSPS YSPTSPSYSP TSPSYSPTSP SYSPTSPSY PTSPSYSPTS
 PSYSPTSPSY SPTSPSYSP SPSYSPTSPS YSPTSPSYSP TSPSYSPTSP
 SYSPTSPNYS PTSPNYTPTS PSYSPTSPSY SPTSPNYTPT SPNYSPTSPS
 YSPTSPSYSP TSPSYSPSS RYTPQSPTYT PSSPSYSPSS PSYSPTSPKY
 TPTSPSYSPS SPEYTPTSPK YSPTSPKYSP TSPKYSPTSP TYSPTTPKYS
 PTSPTYSPS PVYTPTSPKY SPTSPTYSP SPKYSPTSPT YSPTSPKGST
 YSPTSPGYSP TSPTYSLTSP AISPDDSEEE N

Purity >95% as determined by SDS-PAGE

Storage -80 °C

Concentration 400 µg/ml

Shipping Dry Ice

GENE INFORMATION

Gene Name POLR2A polymerase (RNA) II (DNA directed) polypeptide A, 220kDa [Homo sapiens]

Official Symbol POLR2A

Synonyms POLR2A; polymerase (RNA) II (DNA directed) polypeptide A, 220kDa; POLR2, polymerase (RNA) II (DNA directed) polypeptide A (220kD); DNA-directed RNA polymerase II subunit RPB1; POLRA; RPB1; RNA polymerase II subunit B1; DNA-directed RNA polymerase II subunit A; RNA-directed RNA polymerase II subunit RPB1; DNA-directed RNA polymerase III largest subunit; DNA-directed RNA polymerase II largest subunit, RNA polymerase II 220 kd subunit; RPO2; POLR2; RPBh1; RPOL2; RplLS; hsRPB1; hRPB220; MGC75453;

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Gene ID	5430
mRNA Refseq	NM_000937
Protein Refseq	NP_000928
UniProt ID	P24928
Chromosome Location	17p13.1
Pathway	Abortive elongation of HIV-1 transcript in the absence of Tat, organism-specific biosystem; DNA Repair, organism-specific biosystem; Disease, organism-specific biosystem; Dual incision reaction in TC-NER, organism-specific biosystem; Eukaryotic Transcription Initiation, organism-specific biosystem; Formation of HIV-1 elongation complex containing HIV-1 Tat, organism-specific biosystem; Formation of HIV-1 elongation complex in the absence of HIV-1 Tat, organism-specific biosystem;
Function	DNA binding; DNA-directed RNA polymerase activity; RNA-directed RNA polymerase activity; metal ion binding; nucleotidyltransferase activity; protein binding; contributes_to protein binding; contributes_to protein kinase activity; transferase activity; ubiquitin protein ligase binding;