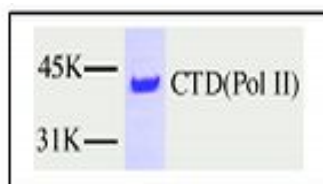


RNA pol II-CTD

(RNA Polymerase II, Carboxy-terminal Domain)

Human, Recombinant, *E. coli*

| Cat. No. | Amount |
|----------|--------|
| PR-714 | 10 µg |



Liquid. Supplied in 20 mM Tris-HCl, pH 7.9, 100 mM KCl, 0.2 mM EDTA, 1 mM DTT, 20% glycerol.

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 TFIIIB and TFIIIF. 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 carboxy-terminal domain under the control of a T7 promoter.

CTD has been applied in *in vitro* transcription assays, splicing assays and protein-protein interaction assays.

Protein is greater than 95% homogeneous and contains no detectable protease, DNase, and RNase activity.

Unit definition:

1 unit equals 1 nanogram of purified protein. 20 units are sufficient for reconstituted transcription assay and 100 units are sufficient for a protein-protein interaction assay.

AVOID FREEZE/THAW CYCLES.

For *in vitro* use only!

Purity: > 95% by SDS-PAGE.

Store: -80 °C

Selected References:

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- Lee *et al.* (1991) CTD kinase large subunit is encoded by CTK1, a gene required for normal growth of *Saccharomyces cerevisiae*. *Gene Expr.* **1**:149.
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- Marshall *et al.* (1996) Control of RNA polymerase II elongation potential by a novel carboxyl-terminal domain kinase. *J. Biol. Chem.* **271**:27176.
- Chambers *et al.* (1994) Purification and characterization of a phosphatase from HeLa cells which dephosphorylates the C-terminal domain of RNA polymerase II. *J. Biol. Chem.* **269**:26243.
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