Data sheet

IFTA AG
Certified QMS according to
DIN EN ISO 9001
Reg. No. IC 03214 034

Jena Bioscience

RNA pol II
RNA Polymerase II, native complex
human, HeLa

Cat. No.	Amount
PR-713	2 µg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -80°C

Avoid freeze / thaw cycles

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
100 ng are sufficient for reconstituted *in vitro* transcription assays and 500 ng are sufficient for protein-protein interaction assays.

Purity
> 95% by SDS-PAGE

Description
RNA Polymerase II is responsible for transcribing nuclear genes encoding the messenger RNAs and several small nuclear RNAs. It is composed of 12 subunits. The two largest subunits are the most highly conserved among eukaryotes and are homologous to the α- and β-subunits of the bacterial RNA Polymerase. RNA Pol II cannot recognize its target promoter directly and cannot initiate transcription without accessory factors. Instead, this large multisubunit enzyme relies on both general transcription factors and transcriptional activators and coactivators to regulate transcription from class II promoters. The carboxyl terminal domain (CTD) of RNA Polymerase II contains 52 repeats of a heptapeptide that has multiple essential roles in transcription initiation, promoter clearance, transcript elongation, and the recruitment of the RNA processing machinery. Specific phosphorylation events at the CTD are associated with the spatial and temporal coordination of these different activities.
Native RNA Polymerase II complex was purified from HeLa cells nuclear pellet or calf thymus.
RNA Polymerase II has been applied for *in vitro* transcription assays on naked as well as on chromatin templates and for protein-protein interaction assays.
The Pol II protein complex is 60% - 70% pure and is devoid of other general transcription factors.

Selected References:

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Choy *et al.* (1993) Eukaryotic activators function during multiple steps of preinitiation complex assembly. *Nature* **366**:531.
Dahmus (1994) The role of multisite phosphorylation in the regulation of RNA polymerase II activity. *Prog. Nucleic Acid Res. Mol. Biol.* **48**:143.
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Lu *et al.* (1992) Human general transcription factor IIH phosphorylates the C-terminal domain of RNA polymerase II. *Nature* **358**:641.

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Cisek *et al.* (1989) Phosphorylation of RNA polymerase by the murine homologue of the cell-cycle control protein cdc2. *Nature* **339**:679.
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