

## Anti-RNA polymerase II [CTD 4H8] Standard Size Ab00832-10.3

This antibody was created using our proprietary Fc Silent™ engineered Fc domain containing key point mutations that abrogate binding to Fc gamma receptors. Developed in partnership with Ximbio ([www.ximbio.com](http://www.ximbio.com)).

This chimeric human antibody was made using the variable domain sequences of the original Mouse IgG1 format, for improved compatibility with existing reagents, assays and techniques.

**Isotype and Format:** Human IgG1, Fc Silent™, Kappa

**Clone Number:** CTD 4H8

**Alternative Name(s) of Target:** RNAPII; DNA-directed RNA polymerase subunit RPB1; RNA polymerase II subunit B1

**UniProt Accession Number of Target Protein:** P24928

**Published Application(s):** CHIP, ChIP-seq, FACS, IP, WB, ELISA, IF, IHC

**Published Species Reactivity:** Saccharomyces cerevisiae, Human

**Immunogen:** Murine antibodies were produced by immunising mice with a peptide consisting of 10 repeats of the RNA polymerase II C-terminal domain sequence YSPTSPS. In each repeat, Ser5 was phosphorylated. Immunised cells were fused with the Sp2/0-Ag14 myeloma cell line to produce a hybridoma.

**Specificity:** CTD 4H8 is known to be reactive with human and S. cerevisiae RNA polymerase II CTDs, however may also be cross-reactive with this protein in other species, including mouse, rat and chicken. The Ab is also reactive with both the phosphorylated and unphosphorylated form of the CTD YSPTSPS repeat. RNAPII is responsible for the transcription of most protein-coding genes in the human genome. The CTD of the enzyme, featuring these YSPTSPS repeats, is crucial for the regulation of the enzyme in a spatial (i.e. positionally along genes) and temporal (i.e. rate of RNA polymerisation) manner.

**Application Notes:** This mAb has been used in a variety of methods, including Western blotting of the unphosphorylated (Engelhardt et al, 2005) or Ser5-CTD phosphorylated form (Stock et al, 2007), and in precipitation experiments either simply pulling down RNAPII (Kukalev et al, 2005; Peng et al, 2014) or coupled to massively parallel DNA sequencing (ChIP-seq) of the total RNAPII-associated DNA isolated from human CD4+ cells (Zhang et al, 2012).

**Antibody First Published in:** Kristjuhan et al. Transcriptional inhibition of genes with severe histone h3

hypoacetylation in the coding region Mol Cell. 2002 Oct;10(4):925-33 [PMID:12419235](#)

**Note on publication:** Describes a growing link between histone acetylation and gene expression using budding yeast. The mAb (CTD) 4H8 was used to immunoprecipitate hypo- and hyperphosphorylated RNAPII. The reactivity of CTD 4H8 for these forms of RNAPII was described by B. Winkler and J.Q.S, but the experiments which determined this, or the specific production of this mAb, remain unpublished.

## Product Form

**Size:** 200 µg Purified antibody.

**Purification:** Protein A affinity purified

**Supplied In:** PBS with 0.02% Proclin 300.

**Storage Recommendation:** Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

**Concentration:** 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.