

## Histone H1<sup>0</sup> Human, Recombinant



1-800-632-7799  
info@neb.com  
www.neb.com



M2501S 006150417041

# M2501S



**100 µg**      **1.0 mg/ml**      **Lot: 0061504**  
**RECOMBINANT**    **Store at -20°C**    **Exp: 4/17**

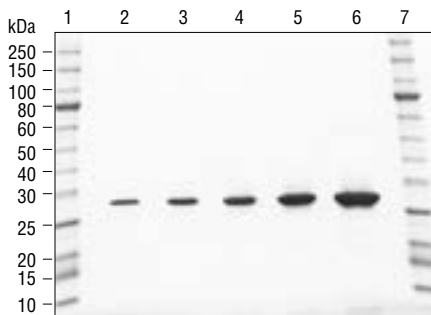
**Description:** Histone H1 acts on the linker region of polynucleosome DNA to condense the chromatin into structures of ~30 nm (1). It is not necessary for octamer or nucleosome core particle formation. Eight different Histone H1 proteins have been identified in the human genome (2). Histone H1<sup>0</sup> is a non replication-dependent histone that is highly expressed in cells that have terminally differentiated (3).

**Source:** An *E. coli* strain that carries a plasmid encoding the human histone H1 gene, H1F0 or H1FV. (Genbank accession number: X03473)

Supplied in: 20 mM Sodium Phosphate (pH 7.0), 300 mM NaCl and 1 mM EDTA.

**Note:** The protein concentration (1 mg/ml, 48 µM) is calculated using the molar extinction coefficient for Histone H1 (3840) and its absorbance at 280 nm (4,5). 1.0 A<sub>280</sub> units = 5.4 mg/ml

Synonyms: Histone H1.0, Histone H1(0), Histone H1'

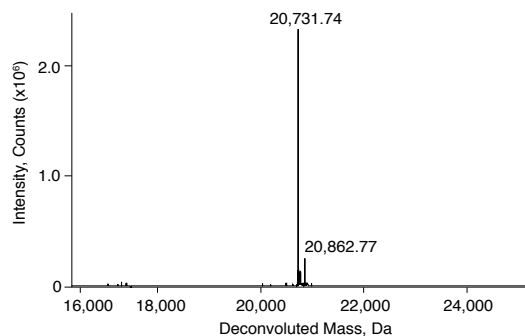


**SDS-PAGE analysis of Histone H1<sup>0</sup> Human, Recombinant.**  
Lane 1 and 7: NEB Protein Ladder (NEB #P7703), Lanes 2 thru 6: 0.5, 1.0, 2.0, 5.0, 10.0 µg Histone H1<sup>0</sup> Human, Recombinant.

### Quality Control Assays:

**SDS-PAGE:** 0.5, 1.0, 2.0, 5.0, 10.0 µg of Histone H1<sup>0</sup> Human, Recombinant were loaded on a 10–20% Tris-Glycine SDS-PAGE gel and stained with Coomassie Blue. The calculated molecular weight is 20731.53 Da. Its apparent molecular weight on 10–20% Tris-Glycine SDS-PAGE gel is ~27 kDa.

**Mass Spectrometry:** The mass of purified Histone H1<sup>0</sup> Human, Recombinant is 20731.74 Da as determined by ESI-TOF MS (Electrospray



ESI-TOF Analysis of Histone H1<sup>0</sup> Human, Recombinant.

Ionization-Time of Flight Mass Spectrometry). The average mass calculated from primary sequence is 20731.53 Da. This confirms the protein identity of the histone. There is a small percentage of histone H1<sup>0</sup> with a mass of 20863.27 which is a +131 Da difference from the major species. This correlates to histone H1<sup>0</sup> with an intact N-terminal methionine (6).

**Protease Assay:** After incubation of 5 µg of Histone H1<sup>0</sup> Human, Recombinant with a standard mixture of proteins for 4 hours at 37°C, no proteolytic activity could be detected by SDS-PAGE.

**Exonuclease Assay:** Incubation of a 50 µl reaction containing 10 µg of Histone H1<sup>0</sup> Human, Recombinant with 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] *E. coli* DNA (200,000 cpm/µg) for 4 hours at 37°C released < 0.1% of the total radioactivity.

(see other side)

CERTIFICATE OF ANALYSIS

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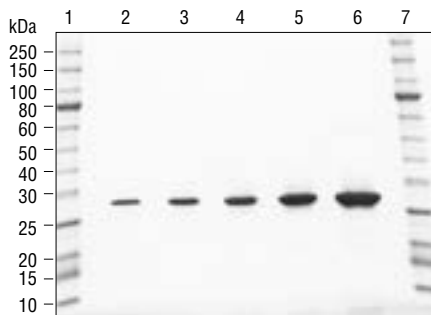
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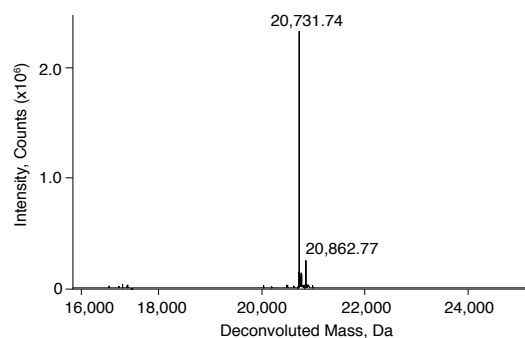


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CERTIFICATE OF ANALYSIS

**Endonuclease Assay:** Incubation of a 50 µl reaction containing 10 µg of Histone H1<sup>o</sup> Human, Recombinant with 1 µg of φX174 RF I (suprecoided) plasmid DNA for 4 hours at 37°C resulted in < 5.0% conversion to RF II form (nicked circle) as determined by agarose gel electrophoresis.

**Protein Sequence:** TENSTSAPAAKPKRAKASKKSTDHPKYSDMIVAAIQAEKNRAGSSRQSIQKYIKSHYKVGENADSIKLSIKRLVTTGVLKQTKGVGASGSFRLAKSDEPKKSVAFKKTKEIKKVATPKKASKPKKAASKAPTKKPKATPVKKAKKKLAATPKKAKPKTVKAKPVKASKPKKAKPVKPKAKSSAKRAGKKK (Genbank accession number: P07305)

**References:**

1. van Holde, K.E. (1989) *Chromatin*, 1–497
2. Marzluff, W.F., et al. (2002) *Genomics*, 80, 487–497
3. Pehrson, J.R. and Cole, R.D. (1982) *Biochem.*, 21, 456–460
4. Gill, S.C. and von Hippel, P.H. (1989) *Anal. Biochem.*, 182, 319–326
5. Pace, C.N. et al. (1995) *Protein Science*, 4, 2411–2423
6. Qing, X. et al. (2010) *Biochemistry*, 49, 5588–5599.



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