

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



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



## M2501S



**100 µg**      **1.0 mg/ml**      **Lot: 0061408**  
**RECOMBINANT**    **Store at -20°C**    **Exp: 8/16**

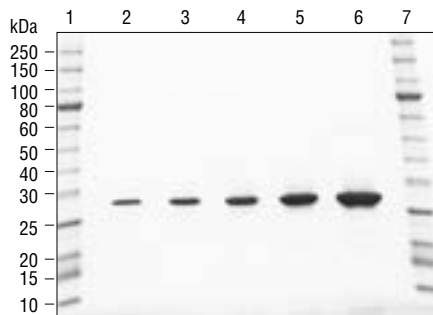
**Description:** Histone H1 acts on the linker region of polynucleosome DNA to condense the chromatin into structures of ~30 nm (1). It is not necessary for octamer or nucleosome core particle formation. Eight different Histone H1 proteins have been identified in the human genome (2). Histone H1<sup>0</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'

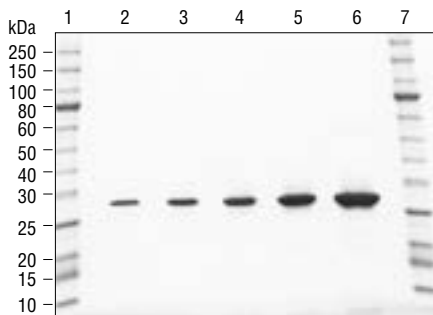


**SDS-PAGE analysis of Histone H1<sup>0</sup> Human, Recombinant.**  
Lane 1 and 7: NEB Protein Ladder (NEB #P7703), Lanes 2 thru 6: 0.5, 1.0, 2.0, 5.0, 10.0 µg Histone H1<sup>0</sup> Human, Recombinant.

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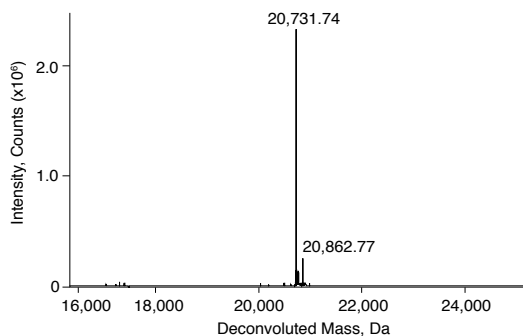


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### Quality Control Assays:

**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 as well as the absence of any modifications 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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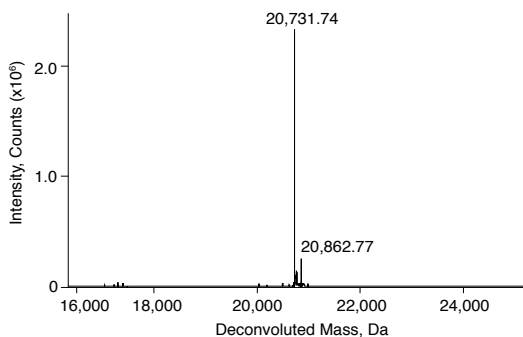
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**Protein Sequence:** TENSTSAPAAKPKRAKASKK STDHPKYSDMIVAAIQAEKNRAGSSRQSIQKYIKSH YKVGENADSIKLSIKRLVTTGVLKQTKGVGASGS FRLAKSDEPKKSVAFKKTKEIKKVATPKKASKPKK AASKAPTKKPKATPVKKAKKLAATPKKAKPKTV KAKPVKASKPKKAKPVKPKAKSSAKRAGKKK (Genbank accession number: P07305)

**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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