

Recombinant Human Mononucleosomes, Desthiobiotinylated

Cat. No. NUC-005 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Mononucleosomes assembled from recombinant human histones expressed in E. coli.
Species	Human
Source	E.coli
Description	Mononucleosomes assembled from recombinant human histones expressed in E. coli (two each of histones H2A, H2B, H3.1 and H4; accession numbers: H2A-P04908; H2B-O60814; H3.1-P68431; H4-P62805) wrapped with a 147 base pairs of 601 positioning sequence DNA. The nucleosome is the basic subunit of chromatin. The 601 sequence, identified by Lowary and Widom, is a 147-base pair sequence that has high affinity for histone octamers and is useful for nucleosome assembly and contains a 5' desthiobiotin-TEG group. Desthiobiotin has a weaker affinity ($K_d = 10^{-11}$) for avidin-family proteins than does biotin ($K_d = 10^{-15}$).
Form	Purified recombinant mononucleosomes (50 μ g total mass, 27.3 μ g protein + 22.7 μ g DNA in 42.5 μ l) in 10 mM Tris-HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol.
Molecular Mass	199,827.86 Da
Applications	Mononucleosome, Recombinant Human, Desthiobiotinylated are highly purified and suitable for use as substrates in enzyme screening assays, structural studies, or effector protein binding experiments. The weaker affinity of desthiobiotin for avidin-

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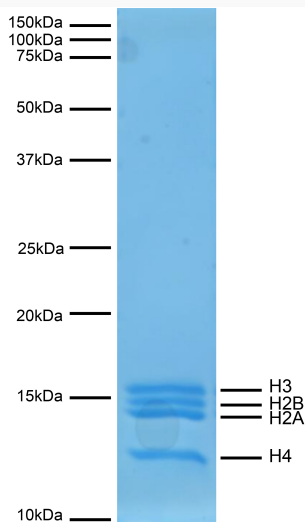
family proteins allows nucleosomes to be eluted via addition of free biotin. The ability of these nucleosomes to be recovered intact is useful in many aspects of chromatin biology

Storage

Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid multiple freeze/thaws.

Conjugation

Biotin

**Protein Gel Data of
NUC-005**


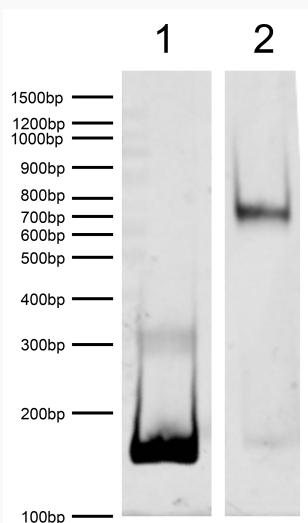
Coomassie stained SDS-PAGE of proteins in Mononucleosomes, Human Recombinant, Desthiobiotinylated (1 µg) demonstrates the purity of the histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3, and H4) are indicated.

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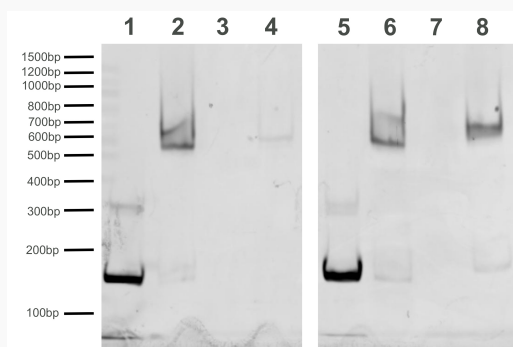
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DNA Gel Data of NUC-005



Mononucleosomes, Recombinant Human, Desthiobiotinylated resolved via native PAGE and stained with ethidium bromide to visualize DNA. Lane 1: Free DNA (200ng). Lane 2: Intact nucleosomes (400ng).

Desthiobiotin Elution Data of NUC-005



Mononucleosomes, Recombinant Human, Desthiobiotinylated efficiently elute from streptavidin magnetic beads with the addition of 5mM free biotin. Mononucleosomes, Recombinant Human, Biotinylated do not elute from streptavidin magnetic beads under the same conditions. Lane 1 DNA loading control (100 ng). Lane 2 input (200

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ng). Lane 3 1xTBST wash of beads. Lane 4 5mM D(+)-biotin eluate. Lane 5 DNA loading control (100 ng) Lane 6 input (200 ng). Lane 7 1xTBST wash of beads. Lane 8 5mM D(+)-biotin eluate. Nucleosomes remain intact throughout the elution process.

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