

# Recombinant Human Mononucleosomes (H2AX), Biotinylated

**Cat. No.** NUC-037    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Mononucleosomes assembled from recombinant human histones expressed in E. coli.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Description</b>      | Mononucleosomes assembled from recombinant human histones expressed in E. coli (two each of histones H2AX, H2B, H3 and H4. Accession numbers: H2AX-P16104; H2B-O60814; H3.1-P68431; H4-P62805) wrapped by 147 base pairs of 601 positioning sequence DNA with a 5' biotin-TEG group. The nucleosome is the basic subunit of chromatin. H2AX is a variant of histone H2A that is phosphorylated on serine 139 by the ATM and ATR kinases in response to DNA double strand breakage. Phosphorylation of H2AX serves to recruit a number of DNA damage repair proteins, such as BRCA1 and NBS1. |
| <b>Form</b>             | Purified recombinant mononucleosomes (50 µg total mass, 27.4 µg in 50.0 µl) in 10 mM Tris-HCl pH 7.5, 1 mM EDTA, 25 mM NaCl, 2 mM DTT and 20% glycerol. Concentration of nucleosomes is 4.94 µg/µl.                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Molecular Mass</b>   | 202,308.2 Da                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Applications</b>     | Mononucleosomes (H2AX), Human Recombinant Biotinylated are highly purified and are suitable for use as substrates in enzyme screening assays or for nucleosome binding experiments. The absence of post-translational histone modifications makes                                                                                                                                                                                                                                                                                                                                            |

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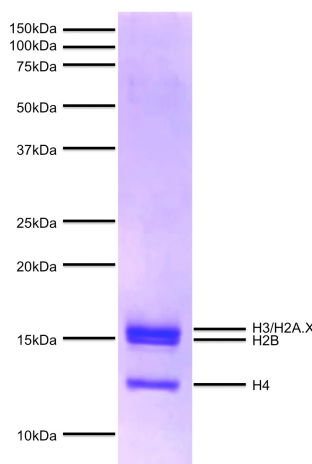
them ideal for conducting enzyme activity and screening assays. Mononucleosomes (H2AX), Human Recombinant Biotinylated do not contain free DNA which could alter assayed activities.

**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**


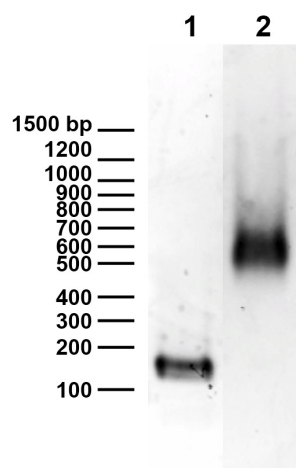
Coomassie stained PAGE gel of proteins in Nucleosome (H2AX), Human Recombinant Biotinylated (1 g) demonstrates the purity of the histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2AX, H2B, H3 and H4) are indicated. N.B. Histone H2AX co-migrates with histone H3.

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### DNA Gel Data



Nucleosome (H2AX), Human Recombinant Biotinylated run on an agarose gel and stained with ethidium bromide to visualize DNA. Lane 1: DNA extracted from nucleosomes (100 ng). Lane 2: Intact nucleosomes (400 ng). Note absence of free DNA in Lane 1, indicating all DNA complexed with histones.

### Western Blot Data



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Western Analysis of Nucleosome (H2AX), Human Recombinant Biotinylated. Top Panel: H2A-containing (Lane 1) and H2AX-containing nucleosomes (Lane 2) were probed with an anti-H2AX antibody and analyzed via ECL readout. Only the H2AX samples produced a detectable signal. Bottom Panel: Detail from Coomassie stained gel showing histones from H2A (Lane 1) and H2AX nucleosomes (Lane 2).

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