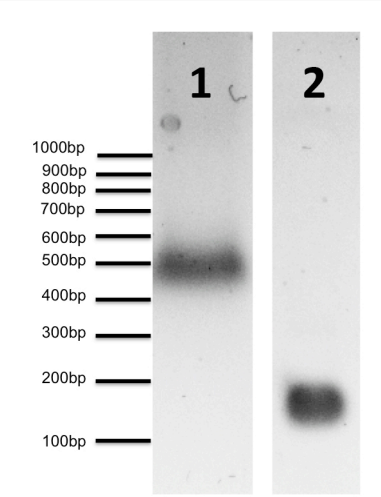
Recombinant Human Mononucleosomes (H3.3), Biotinylated

Cat. No. NUC-043 **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 and H4. Accession numbers: H2A-P04908; H2B-O60814; H3.3-P84243; H4-P62805) wrapped by 147 base pairs of 601 positioning sequence DNA. There is a 5' biotin-TEG group on the DNA which makes them ideal for use in nucleosome binding assays and pull-down experiments. The nucleosome is the basic subunit of chromatin. H3.3 is a histone variant, a non-allelelic replacement histone found in regions of high chromatin turnover outside of S-phase (e.g. at actively transcribed genes). H3.3-H4 associates in vivo with the HIRA chaperone complex.
Form	Purified recombinant mononucleosomes (100 µg total mass, protein+DNA, 54.6 µg protein) in 10 mM Tris-HCl pH 7.5, 1 mM EDTA, 25 mM NaCl, 2 mM DTT, & 20% glycerol.
Molecular Mass	200,876 Da
Applications	Mononucleosomes (H3.3), Human Recombinant Biotinylated are highly purified and are suitable for use as substrates in enzyme screening assays or for nucleosome

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

	binding experiments. The absence of post-translational histone modifications makes them ideal for conducting enzyme activity and screening assays. The biotin group on the DNA makes pull-down experiments possible, allowing you to isolate the nucleosomes after your assay is complete. Mononucleosomes (H3.3), 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
DNA Gel Data	 Mononucleosomes (H3.3), Human Recombinant Biotinylated run on an agarose gel and stained with ethidium bromide to visualize DNA. Lane 1: Intact nucleosomes (200 ng total, ~100 ng DNA and ~100 ng histone protein) run on gel. Lane 2: DNA extracted from nucleosomes (400 ng). Intact nucleosomes migrate much higher than free DNA, thus the DNA resolves at a higher molecular weight when

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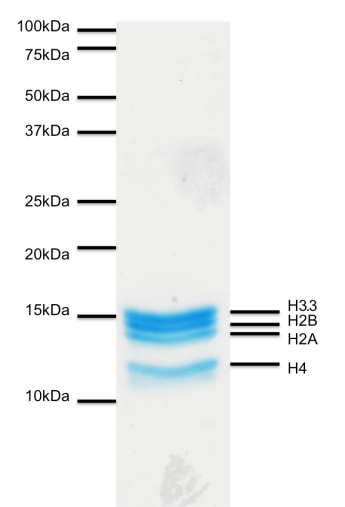
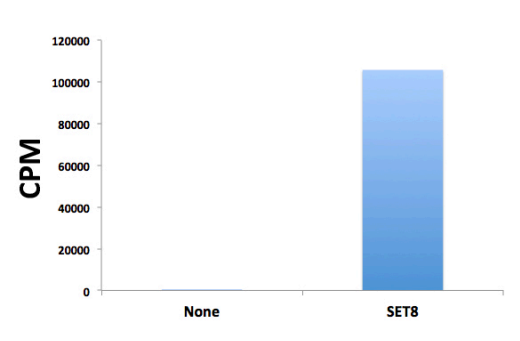
nucleosome-bound. Note absence of free DNA in Lane 1, indicating all DNA complexed with histones.

Protein Gel Data



Coomassie stained PAGE gel of proteins in Mononucleosomes (H3.3), Human Recombinant Biotinylated (1 g) to demonstrate the purity and integrity of the histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3 and H4) are indicated.

Histone Methyltransderas Assay Data



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Recombinant SET8 histone methyltransferase was used in radioactive methyltransferase assays with a variety of substrates as indicated, with SET8 exhibiting the highest level of activity in combination with recombinant nucleosomes (16-0011).

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