

Nucleosome, Recombinant Human, H3K36me3 dNuc, Biotinylated

Catalog No	16-0320	Species	Human
Lot No	22173006-01	Source	<i>E. coli</i> & synthetic DNA
Pack Size	50 µg	Tag	Biotinylated
Concentration	4.72 µM	MW	199,943 Da

DESCRIPTION

Designer mononucleosomes (dNucs) consist of 147 base pairs of DNA wrapped around an octamer core of histone proteins (two each of H2A, H2B, H3.1, and H4) to form a nucleosome, the basic repeating unit of chromatin. Histone H3 (created by a proprietary synthetic method) contains trimethyl-lysine at position 36. The 147 bp 601 sequence, identified by Lowary and Widom [1], has high affinity for histone octamers and is useful for nucleosome assembly. The DNA in this nucleosome contains a 5' biotin-TEG group.

TECHNICAL INFORMATION

Storage	Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid freeze/thaws.
Formulation	0.945 mg/mL mononucleosome in 53 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, and 20% glycerol. (27.3 µg protein, 50 µg DNA + protein).

APPLICATION NOTES

H3K36me3 dNuc is highly purified and suitable for a variety of applications, including use as a substrate in enzyme assays, high-throughput screening and inhibitor testing, chromatin binding studies, protein-protein interaction assays, structural studies, and in effector protein binding experiments.

GENE & PROTEIN INFORMATION

UniProt ID	H2A - P04908 (alt. names: H2A type 1-B/E, H2A.2, H2A/a, H2A/m) H2B - O60814 (alt. names: H2B K, HIRA-interacting protein 1) H3.1 - P68431 (alt. names: H3, H3/a, H3/b, H3/c, H3/d) H4 - P62805
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REFERENCES

[1] Lowary & Widom *J. Mol. Biol.* (1998). PMID: 9514715



FIGURE 1 Western blot data. Western Analysis of H3K36me3 dNuc. **Top Panel:** Unmodified (EpiCypher 16-0006; Lane 1) and H3K36me3 nucleosomes (Lane 2) were probed with an anti-H3K36me3 antibody and analyzed via ECL readout. Only the H3K36me3 sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel showing unmodified H3 (Lane 1) and H3K36me3 nucleosome (Lane 2).

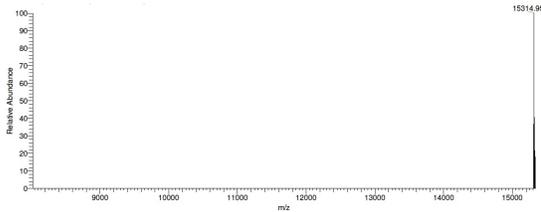


FIGURE 2 Mass spec data. Synthetic H3K36me3 histone analyzed by high resolution mass spectrometry. Expected mass = 15,314.97 Da. Determined mass = 15,314.95 Da.

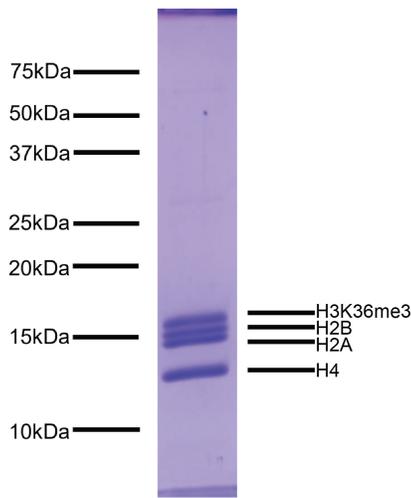


FIGURE 3 Protein gel data. Coomassie stained PAGE gel of proteins in H3K36me3 dNuc (1 μ g) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3K36me3 and H4) are indicated.

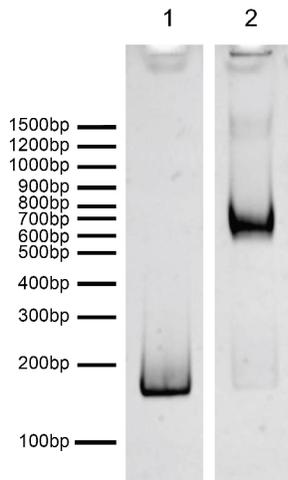


FIGURE 4 DNA gel data. H3K36me3 dNuc resolved via native PAGE and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (EpiCypher 18-0005; 100 ng). **Lane 2:** Intact H3K36me3 nucleosomes (400 ng).