Nucleosome, Recombinant Human, H3K27ac dNuc Biotinylated

Catalog No	16-0365	**Species**	Human
Lot No	23202005-01	**Source**	*E. coli* & synthetic DNA
Pack Size	50 µg	**Tag**	Biotinylated
Concentration	5.0 µM	**MW**	199,730.1 Da

DESCRIPTION

Recombinant mononucleosomes (H3K27ac) consist of 147 base pairs of DNA wrapped around an octamer core of histone proteins (two each of histones H2A, H2B, H3.2 and H4) to form a nucleosome, the basic repeating unit of chromatin. The 147 bp 601 sequence, identified by Lowary and Widom [1], has high affinity for histone octamers and is useful for nucleosome assembly. H3K27ac dNuc contains acetyl-lysine at position 27 on histone H3.2. H3K27ac has a Cys to Ala substitution at position 110. The DNA 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	1.0 mg/mL mononucleosome in 50.0 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol (27.4 µg protein, 50 µg DNA + protein)

APPLICATION NOTES

H3K27ac 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) H3.2 - Q71DI3 H4 - P62805

REFERENCES

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

VALIDATION DATA

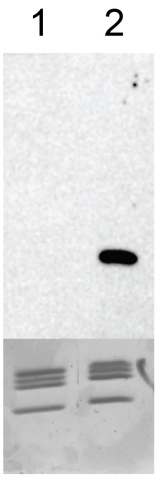

FIGURE 1 **Western blot data.** Western Analysis of H3K27ac dNuc. **Top Panel:** Unmodified (EpiCypher 16-0006; Lane 1) and H3K27ac (Lane 2) nucleosomes were probed with an anti-H3K27ac antibody and analyzed via ECL readout. Only the H3K27ac sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel showing unmodified (Lane 1) and H3K27ac (Lane 2) nucleosomes.

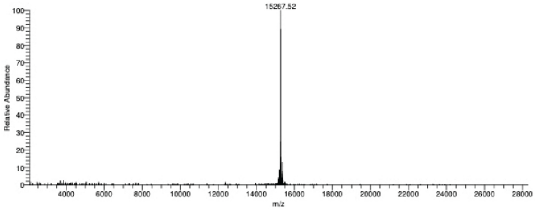

FIGURE 2 **Mass spec data.** Semi-synthetic H3K27ac histone analyzed by high resolution mass spectrometry. Expected mass = 15,266.8 Da. Determined mass = 15,267.52 Da.

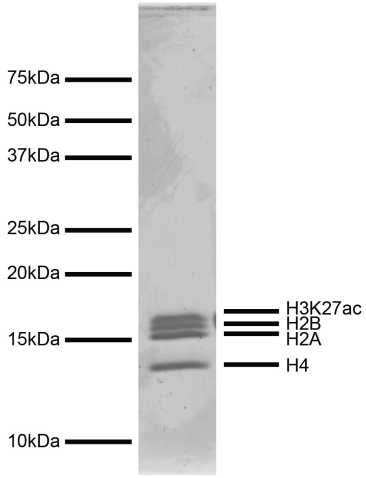

FIGURE 3 **Protein gel data.** Coomassie stained SDS-PAGE gel of proteins in H3K27ac dNuc (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3K27ac and H4) are indicated.

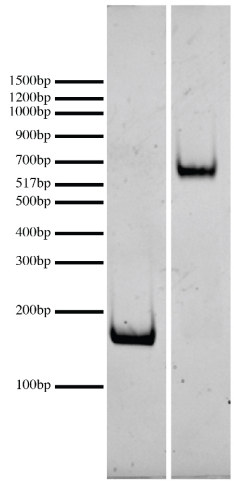

FIGURE 4 **DNA gel data.** H3K27ac dNuc resolved via native PAGE and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (EpiCypher 18-0005; 100 ng). **Lane 2:** Intact H3K27ac nucleosomes (400 ng).