EpiCypher®

Nucleosome, Recombinant Human, H4K16ac dNuc, Biotinylated

Catalog No	16-0354	**Species**	Human
Lot No	24100005-01	**Source**	*E. coli* & synthetic DNA
Pack Size	50 µg	**Tag**	Biotinylated
Concentration	7.4 µM	**MW**	199,910.3 Da

DESCRIPTION

Recombinant mononucleosomes (H4K16ac) 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. The 147 bp 601 sequence, identified by Lowary and Widom [1], has high affinity for histone octamers and is useful for nucleosome assembly. H4K16ac contains acetyl-lysine at position 16 on histone H4. 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	1.48 mg/mL mononucleosome in 33.7 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol (27.3 µg protein, 50 µg DNA + protein).

APPLICATION NOTES

H4K16ac mononucleosome 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

REFERENCES

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

VALIDATION DATA

FIGURE 1 Western blot data. Western Analysis of H4K16ac dNuc. **Top Panel:** Unmodified (EpiCypher 16-0006; Lane 1) and H4K16ac (Lane 2) nucleosomes were probed with an anti-H4K16ac antibody and analyzed via ECL readout. Only the H4K16ac sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel showing unmodified (Lane 1) and H4K16ac (Lane 2) nucleosomes.

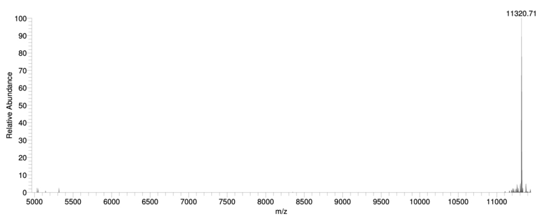

FIGURE 2 Mass spec data. Synthetic H4K16ac histone analyzed by high resolution mass spectrometry. Expected mass = 11,320.2 Da. Determined mass = 11,320.71 Da.

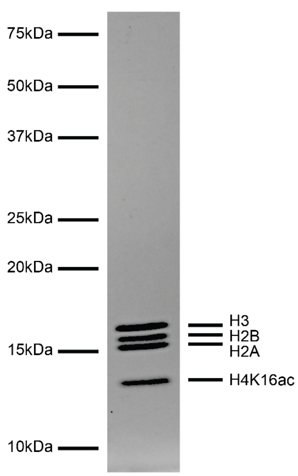

FIGURE 3 Protein gel data. Coomassie stained SDS-PAGE gel of proteins in H4K16ac dNuc (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3 and H4K16ac) are indicated.

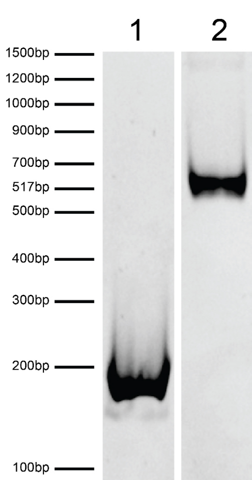

FIGURE 4 DNA gel data. H4K16ac dNuc resolved via native PAGE gel and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (EpiCypher 18-0005; 100 ng). **Lane 2:** Intact H4K16ac nucleosomes (400 ng).