Nucleosome, Recombinant Human, H3K27me3 dNuc, Non-Biotinylated

Catalog No	16-1317	**Species**	Human
Lot No	25111006-01	**Source**	*E. coli* & synthetic DNA
Pack Size	50 µg	**Tag**	None
Concentration	4.07 µM	**MW**	199,251 Da

DESCRIPTION

Nucleosome, Recombinant Human, H3K27me3 (histone H3 lysine 27 trimethylation) dNuc, Non-Biotinylated consists of 147 base pairs of DNA wrapped around an octamer core of histone proteins (two each of 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. H3K27me3 nucleosome contains trimethylated lysine at position 27 and a Cys to Ala substitution at position 110 on histone H3.2.

TECHNICAL INFORMATION

Storage	Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid freeze/thaws.
Formulation	0.81 mg/mL nucleosome in 61.7 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol (27.2 µg protein weight, 50 µg DNA + protein).

APPLICATION NOTES

H3K27me3 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. For a corresponding unmodified control, we recommend EpiCypher 16-0009.

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 H3K27me3 dNuc. **Top Panel:** Unmodified (EpiCypher 16-0009; **Lane 1)** and H3K27me3 nucleosomes (**Lane 2**) were probed with an anti-H3K27me3 antibody and analyzed via enhanced chemiluminescence (ECL) readout. Only the H3K27me3 sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel showing unmodified (**Lane 1**) and H3K27me3 nucleosomes (**Lane 2**).

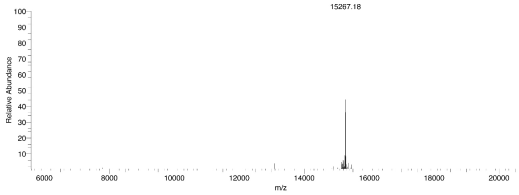

FIGURE 2 Mass spec data. Synthetic H3K27me3 histone analyzed by high resolution mass spectrometry. Expected mass = 15,267.8 Da. Determined mass = 15,267.18 Da.

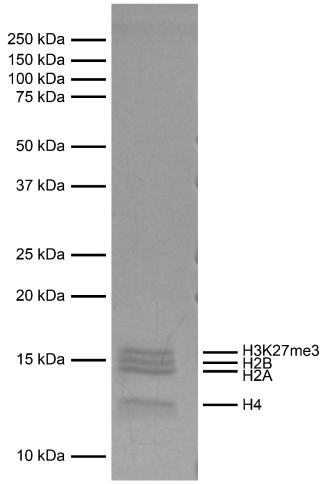

FIGURE 3 Protein gel data. Coomassie stained SDS-PAGE gel of proteins in H3K27me3 dNuc (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3K27me3, and H4) are indicated.

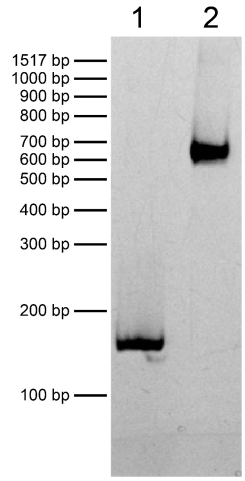

FIGURE 4 DNA gel data. H3K27me3 dNuc resolved via native PAGE and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (EpiCypher 18-0006; 100 ng). **Lane 2:** Intact H3K27me3 nucleosomes (400 ng).