Nucleosome, Recombinant Human, H3K27cr dNuc, Biotinylated

Catalog No	16-0383	**Species**	Human
Lot No	23102003-03	**Source**	*E. coli* & synthetic DNA
Pack Size	50 µg	**Tag**	Biotinylated
Concentration	4.1 µM	**MW**	199,713.1 Da

DESCRIPTION

H3K27cr designer mononucleosomes (dNucs™) consist 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. H3K27cr dNuc contains crotonyl-lysine at position 27 on histone H3.2. The DNA contains a 5' biotin-TEG group. H3K27cr has a Cys to Ala substitution at position 110.

TECHNICAL INFORMATION

Storage	Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid freeze/thaws.
Formulation	0.82 mg/mL mononucleosome in 61.1 µL H3K27cr dNuc in 50.8 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 20% glycerol. (27.3 µg protein, 50.0 µg DNA + protein)

APPLICATION NOTES

H3K27cr dNuc is highly purified and suitable for a variety of applications, including use as a substrate in enzymatic assays or for 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 H3K27cr dNuc. **Top Panel:** Unmodified (EpiCypher 16-0006; Lane 1) and H3K27cr (Lane 2) nucleosomes were probed with an anti-H3K27cr antibody and analyzed via ECL readout. Only the H3K27cr sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel showing unmodified (Lane 1) and H3K27cr nucleosomes (Lane 2).

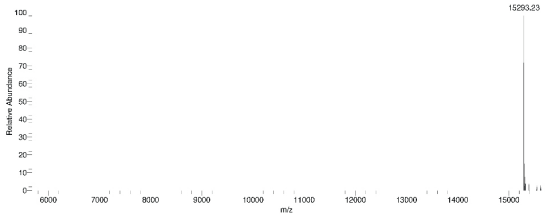

FIGURE 2 Mass spec data. Synthetic H3K27cr histone analyzed by high resolution mass spectrometry. Expected mass = 15,291.8 Da. Determined mass = 15,293.23 Da.

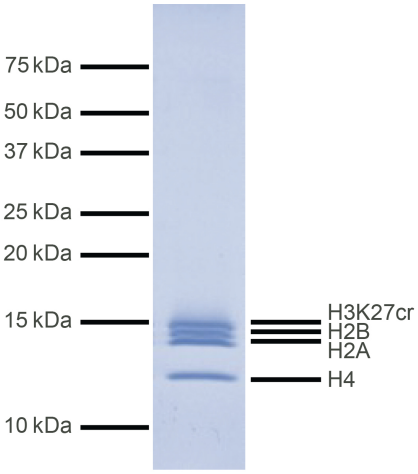

FIGURE 3 Protein gel data. Coomassie stained SDS-PAGE gel of proteins in H3K27cr dNuc (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3K27cr and H4) are indicated.

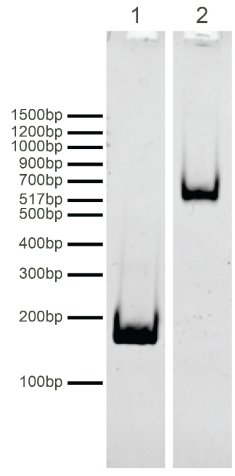

FIGURE 4 DNA gel data. H3K27cr dNuc resolved via native PAGE and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (EpiCypher 18-0005; 100 ng). **Lane 2:** Intact H3K27cr nucleosomes (400 ng).