

Nucleosome, Recombinant Human, H4K20me2 dNuc, Biotinylated

Catalog No	16-0332	Species	Human
Lot No	25098004-01	Source	<i>E. coli</i> & synthetic DNA
Pack Size	50 µg	Tag	Biotinylated
Concentration	4.9 µM	MW	199,882 Da

DESCRIPTION

Nucleosome, Recombinant Human, H4K20me2 (histone H4 lysine 20 dimethylation) dNuc, Biotinylated consists 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. H4K20me2 nucleosome contains dimethylated lysine at position 20. 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	0.98 mg/mL mononucleosome in 51 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol (27.2 µg protein, 50 µg DNA + protein).

APPLICATION NOTES

H4K20me2 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 16-0006.

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 H4 - P62805
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REFERENCES

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



FIGURE 1 Western blot data. Western analysis of H4K20me2 nucleosome. **Top Panel:** Unmodified (EpiCypher 16-0006; Lane 1) and H4K20me2 (Lane 2) nucleosomes were probed with an anti-H4K20me2 antibody and analyzed via enhanced chemiluminescence (ECL) readout. Only the H4K20me2 sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel showing unmodified (Lane 1) and H4K20me2 (Lane 2) nucleosomes.

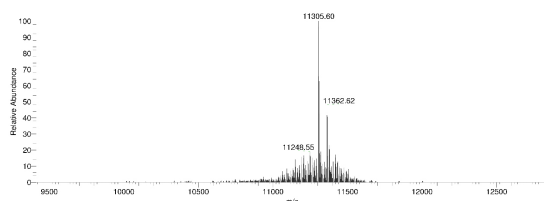


FIGURE 2 Mass spec data. Synthetic H4K20me2 histone analyzed by high resolution mass spectrometry. Expected mass = 11,306.2 Da. Determined mass = 11,305.6 Da.

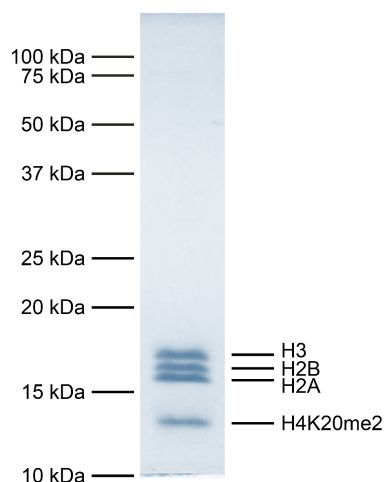


FIGURE 3 Protein gel data. Coomassie stained SDS-PAGE gel of proteins in H4K20me2 nucleosome (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3, and H4K20me2) are indicated.

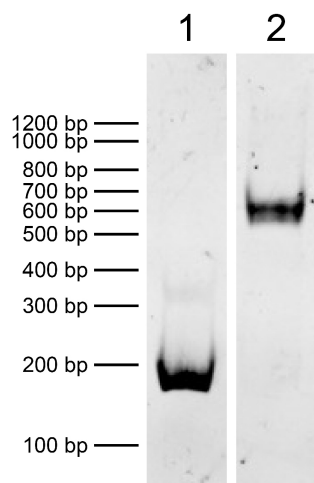


FIGURE 4 DNA gel data. H4K20me2 nucleosome resolved via native PAGE and stained with ethidium bromide to visualize DNA. Both lanes are from the same gel. **Lane 1:** Free DNA (EpiCypher 18-0005; 100 ng). **Lane 2:** Intact H4K20me2 nucleosomes (400 ng).