

Nucleosome, Recombinant Human, H3K4,K9me3 dNuc, Biotinylated

Catalog No	16-0402	Species	Human
Lot No	23276002-01	Source	<i>E. coli</i> & synthetic DNA
Pack Size	50 µg	Tag	Biotinylated
Concentration	7.5 µM	MW	199,814.1 Da

DESCRIPTION

Recombinant mononucleosomes (H3K4,K9me3) 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). The 147 bp 601 sequence, identified by Lowary and Widom [1], has high affinity for histone octamers and is useful for nucleosome assembly. H3K4,K9me3 dNuc contains trimethylated-lysines at positions 4 and 9 on histone H3.2. H3K4,K9me3 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	1.5 mg/mL mononucleosome in 33.3 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

H3K4,K9me3 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
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REFERENCES

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

VALIDATION DATA

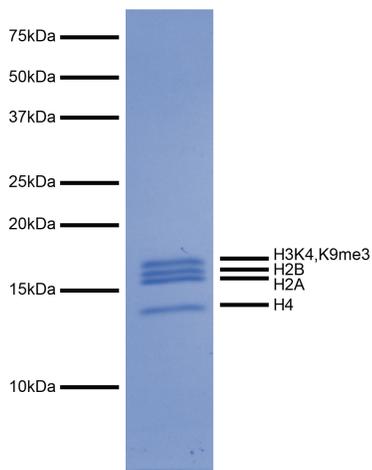


FIGURE 1 Protein gel data. Coomassie stained SDS-PAGE gel of proteins in H3K4, K9me3 dNuc (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3K4, K9me3, and H4) are indicated.

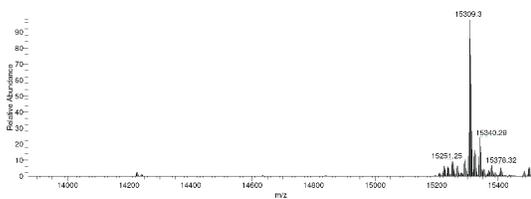


FIGURE 2 Mass spec data. Semi-synthetic H3K4,K9me3 histone analyzed by high resolution mass spectrometry. Expected mass = 15,308.8 Da. Determined mass = 15,309.3 Da.

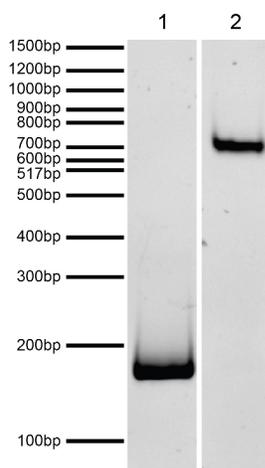


FIGURE 3 DNA gel data. H3K4,K9me3 dNuc resolved via native PAGE and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (EpiCypher 18-0005; 100 ng). **Lane 2:** Intact H3K4,K9me3 nucleosomes (400 ng).