Nucleosome, Recombinant Human, H3K9me2 dNuc, Biotinylated

Catalog No 16-0324-20
Lot No 20322003-24
Pack Size 20 µg

Product Description:

Mononucleosomes assembled from recombinant human histones expressed in *E. coli* (two each of histones H2A, H2B, H3 and H4; accession numbers: H2A-P04908; H2B-O60814; H3.2-Q71DI3*; H4-P62805) wrapped by 147 base pairs of 601 positioning sequence DNA. Histone H3 (created by a proprietary semi-synthetic method) contains dimethyl-lysine at position 9. The nucleosome is the basic subunit 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. The DNA contains a 5' biotin-TEG group. *H3K9me2 has a Cys to Ala substitution at position 110.

Formulation:

H3K9me2 dNuc (10.9 µg protein weight, 20 µg DNA + protein) in 20.4 µL of 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol. Molarity = 4.91 µM. MW = 199,819.7 Da.

Storage and Stability:

Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid multiple freeze/thaws.

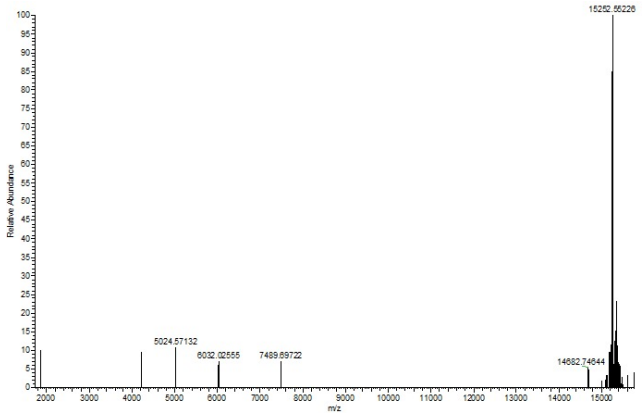
Application Notes:

H3K9me2 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.

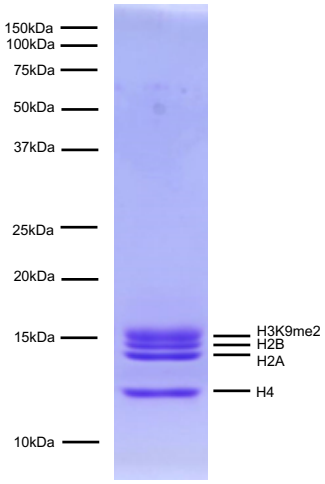
References:

[1] Lowary PT and Widom J (1998) *J Mol Biol* 276:19-42.

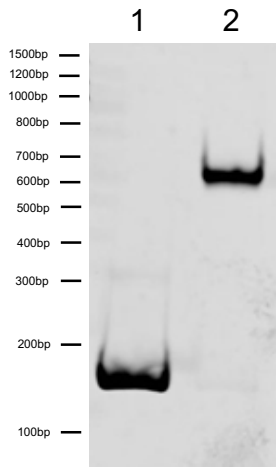
Western Blot Data: Western Analysis of H3K9me2 dNuc. **Top Panel:** Unmodified H3 nucleosomes (Catalog No. 16-0006; Lane 1) and H3K9me2 nucleosomes (Lane 2) were probed with an anti-H3K9me2 antibody and analyzed via ECL readout. Only the H3K9me2 sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel showing unmodified nucleosomes (Lane 1) and H3K9me2 nucleosomes (Lane 2).



Mass Spec Data: Synthetic H3K9me2 histone analyzed by high resolution mass spectrometry. Expected mass = 15,252.8 Da. Determined mass = 15,252.6 Da.



Protein Gel Data: Coomassie stained PAGE gel of proteins in H3K9me2 dNuc (1 µg) to demonstrate the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3K9me2 and H4) are indicated.



DNA Gel Data: H3K9me2 dNuc resolved via native PAGE gel and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (Catalog No. 18-0005; 100 ng). **Lane 2:** Intact H3K9me2 nucleosomes (400 ng).