Nucleosome, Recombinant Human, H3Cit2,8,17 dNuc, Biotinylated

Catalog No 16-0362
Lot No 21214004-02
Pack Size 50 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 synthetic method) contains citrulline (instead of arginine) at positions 2, 8, and 17. 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. *H3 also has a Cys to Ala substitution at position 110.

Formulation:

H3Cit2,8,17 dNuc (27.3 µg protein weight, 50 µg DNA + protein) in 51.5 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol. Molarity = 4.8 µM. MW = 199,769.1 Da.

Storage and Stability:

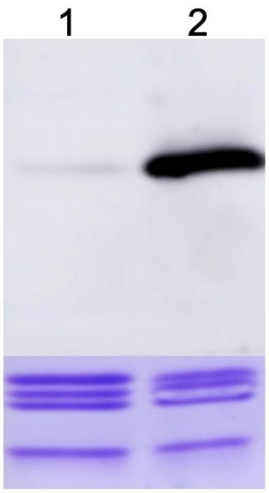
Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid multiple freeze/thaws.

Application Notes:

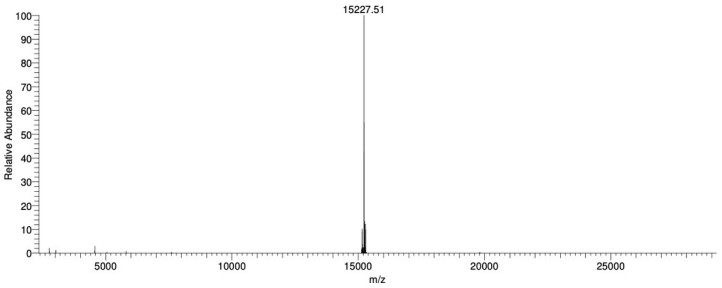
H3Cit2,8,17 dNuc is highly purified and suitable for a variety of applications, including use as a substrate in enzymatic assays or for effector protein binding experiments.

References:

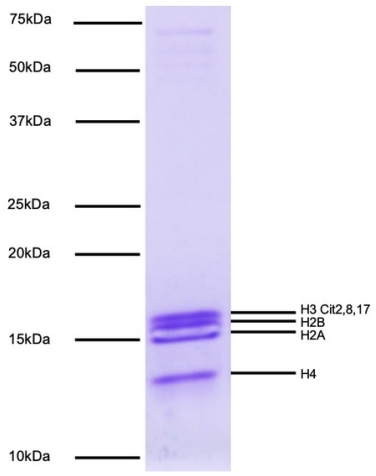
[1] Lowary PT and Widom J (1998) *J Mol Biol* 276:19-42.



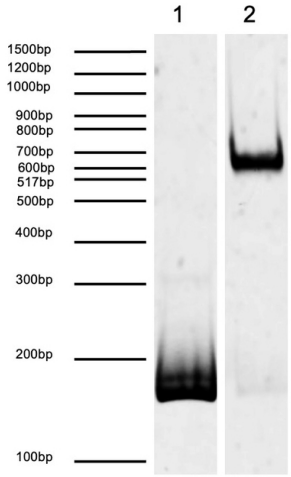
Western Blot Data: Western Analysis of H3Cit2,8,17 dNuc. **Top Panel:** Unmodified nucleosomes (EpiCypher 16-0006; Lane 1) and H3Cit2,8,17 nucleosomes (Lane 2) were probed with an anti-citrulline antibody and analyzed via ECL readout. Only the H3Cit2,8,17 sample produced a detectable signal**. Bottom Panel:** Detail from Coomassie stained gel showing unmodified H3 nucleosome (Lane 1) and H3Cit2,8,17 nucleosome (Lane 2).



Mass Spec Data: Synthetic H3Cit2,8,17 histone analyzed by high resolution mass spectrometry. Expected mass = 15,227.8 Da. Determined mass = 15,227.51 Da.



Protein Gel Data: Coomassie stained PAGE gel of proteins in H3Cit2,8,17 dNuc (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3Cit2,8,17 and H4) are indicated.



DNA Gel Data: H3Cit2,8,17 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 H3Cit2,8,17 nucleosomes (250 ng).