

# Nucleosome, Recombinant Human, H3K4me2 dNuc, Biotinylated



## EpiCypher®

**Catalog No** 16-0334  
**Lot No** 21082002-02  
**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 semi-synthetic method) contains dimethyl-lysine at position 4. 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. \*H3.2K4me2 has a Cys to Ala substitution at position 110.

### Formulation:

H3K4me2 dNuc (27.3 µg protein weight, 50 µg DNA + protein) in 50.0 µL of 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol. Molarity = 5.00 µM. MW = 199,820.06.

### 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:

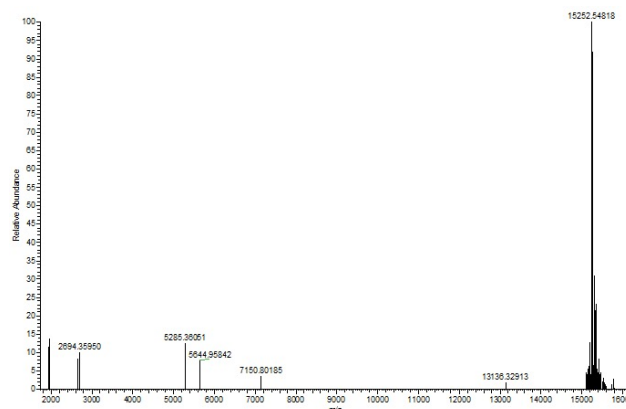
H3R4me2 dNuc is highly purified and suitable for a variety of applications, including use as a substrate in enzymatic assays or for effector protein binding experiments.

### References:

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

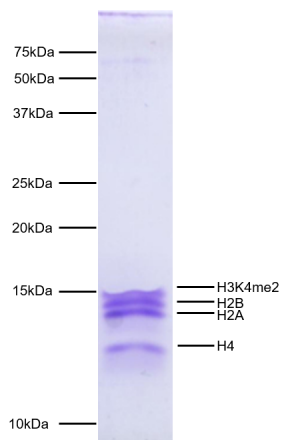


**Western Blot Data:** Western Analysis of H3K4me2 dNuc. **Top Panel:** Unmodified nucleosomes (EpiCypher 16-0006; Lane 1) and H3K4me2 nucleosomes (Lane 2) were probed with an anti-H3K4me2 antibody and analyzed via ECL readout. Only the H3K4me2 sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel showing unmodified nucleosomes (Lane 1) and H3K4me2 nucleosomes (Lane 2).

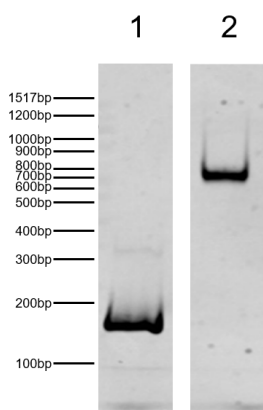


**Mass Spec Data:** Synthetic H3K4me2 histone analyzed by high resolution mass spectrometry. Expected mass = 15,252.8 Da. Determined mass = 15,252.5 Da.

This product is for *in vitro* research use only and is not intended for use in humans or animals.



**Protein Gel Data:** Coomassie stained PAGE gel of proteins in H3K4me2 dNuc (1  $\mu$ g) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3K4me2 and H4) are indicated.



**DNA Gel Data:** H3K4me2 dNuc resolved via native PAGE gel and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (EpiCypher 18-0005; 100 ng). **Lane 2:** Intact H3K4me2 nucleosomes (400 ng).

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