Nucleosome, Recombinant Human, H3R2me1 dNuc, Biotinylated

Catalog No	16-0340	**Species**	Human
Lot No	17211001	**Source**	*E. coli* & synthetic DNA
Pack Size	50 µg	**Tag**	Biotinylated
Concentration	5.14 µM	**MW**	200,465 Da

DESCRIPTION

Mononucleosomes assembled from recombinant human histones expressed in *E. coli* (two each of histones H2A, H2B, H3*, and H4) wrapped by 147 base pairs of 601 positioning sequence DNA. Histone H3 (created by a proprietary semi-synthetic method) contains monomethyl-arginine at position 2. 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. *Histone H3.2 has a Cys to Ala substitution at position 110.

TECHNICAL INFORMATION

Storage	Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid freeze/thaws.
Formulation	1.03 mg/mL mononucleosome in 48.5 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol (27.3 µg protein weight, 50 µg DNA + protein).

APPLICATION NOTES

H3R2me1 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) H3.2 - Q71DI3 H4 - P62805

REFERENCES

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

VALIDATION DATA

FIGURE 1 Western blot data. Western Analysis of H3R2me1 dNuc. **Top Panel:** Unmodified nucleosomes (EpiCypher 16-0006; Lane 1) and H3R2me1 nucleosomes (Lane 2) were probed with an anti-H3R2me1 antibody and analyzed via ECL readout. Only the H3R2me1 sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel showing unmodified nucleosomes (Lane 1) and H3R2me1 nucleosomes (Lane 2).

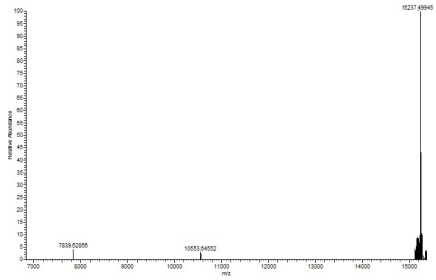

FIGURE 2 Mass spec data. Synthetic H3R2me1 histone analyzed by high resolution mass spectrometry. Expected mass = 15,238.8 Da. Determined mass = 15,237.5 Da.

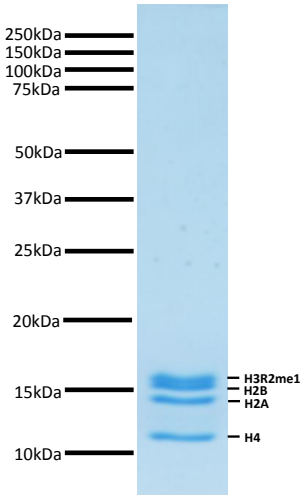

FIGURE 3 Protein gel data. Coomassie stained PAGE gel of proteins in H3R2me1 dNuc (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3R2me1, and H4) are indicated.

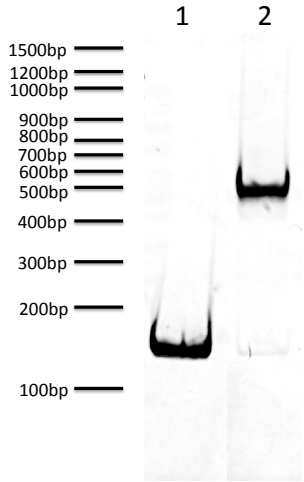

FIGURE 4 DNA gel data. H3R2me1 dNuc resolved via native PAGE gel and stained with ethidium bromide to visualize DNA. Both lanes are from the same gel. **Lane 1:** Free DNA (EpiCypher 18-0005; 200 ng). **Lane 2:** Intact H3R2me1 nucleosomes (400 ng).