Mononucleosomes (H3.3K36M), Recombinant Human Biotinylated

Catalog No	16-0344	**Species**	Human
Lot No	25344004-02	**Source**	*E. coli* & synthetic DNA
Pack Size	50 µg	**Tag**	Biotinylated
Concentration	5.1 µM	**MW**	199,596 Da

DESCRIPTION

H3.3K36M (histone H3.3 containing a methionine at position 36) Recombinant Nucleosome, Biotinylated consists of 147 base pairs of DNA wrapped around an octamer of core histone proteins (two each of H2A, H2B, H3.3, and H4) to form a nucleosome, the basic repeating unit 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. H3.3 is a histone variant, found in regions of high chromatin turnover outside of S-phase (e.g. at actively transcribed genes) [2]. The DNA in this nucleosome 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 multiple freeze/thaws.
Formulation	1.01 mg/mL mononucleosomes in 49.5 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol. (27.2 µg protein weight, 50 µg DNA + protein)

APPLICATION NOTES

H3.3K36M nucleosome 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) H3.3 - P84243 (alt. names: H3F3A, H3.3A, H3F3,) H4 - P62805

REFERENCES

[1] Lowary & Widom *J. Mol. Biol.* (1998). PMID: 9514715
[2] Ahmad & Henikoff Mol Cell (2002). PMID: 12086617

VALIDATION DATA



FIGURE 1 Western blot data. Western analysis of H3.3K36M nucleosome. **Top Panel:** H3.3 (Lane 1) and H3.3K36M nucleosomes (Lane 2) were probed with an anti-H3K36M antibody and analyzed via enhanced chemiluminescence (ECL). Only the H3.3K36M sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel showing histones from unmodified (Lane 1) and H3.3K36M (Lane 2) nucleosomes.

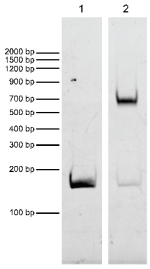

FIGURE 2 DNA gel data. H3.3K36M nucleosome resolved by Native PAGE and stained with ethidium bromide to visualize DNA. All lanes were resolved on a single gel. **Lane 1:** Free DNA (EpiCypher 18-0005; 100 ng). **Lane 2:** Intact H3.3K36M nucleosome (400 ng).

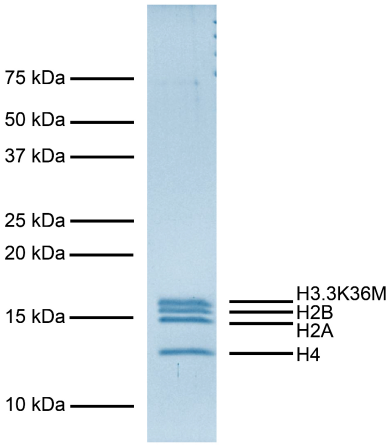

FIGURE 3 Protein gel data. Coomassie stained SDS-PAGE gel of proteins in H3.3K36M nucleosome (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3.3K36M, and H4) are indicated.