Mononucleosomes (H3.3 ΔN32), Human Recombinant

Catalog No	16-1017	**Species**	Human
Lot No	23009002-02	**Source**	*E. coli* & synthetic DNA
Pack Size	50 µg	**Tag**	None
Concentration	4.9 µM	**MW**	192,436.8 Da

DESCRIPTION

Recombinant mononucleosomes (H3.3 ΔN32) consist of 147 base pairs of DNA wrapped around an octamer core of 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. The amino acid sequence for H3.3 in H3.3 ΔN32 dNuc begins with glycine 33 (amino acids 1-32 are deleted).

TECHNICAL INFORMATION

Storage	Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid freeze/thaws
Formulation	0.94 mg/mL mononucleosome in 53.0 µL 10 mM Tris HCl pH 7.5, 1 mM EDTA, 25 mM NaCl, 2 mM DTT, 20% glycerol. (27.4 µg protein, 50 µg DNA + protein)

APPLICATION NOTES

H3.3 ΔN32 mononucleosome 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. The N-terminal deletion allows for the study of the role of the N-terminus in many aspects of chromatin biology.

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 H4 - P62805

REFERENCES

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

VALIDATION DATA

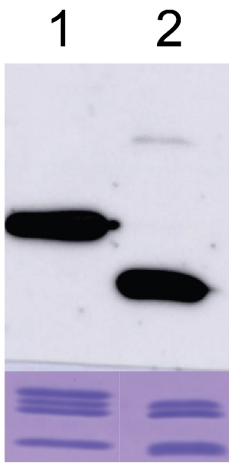

FIGURE 1 Western blot data. Western analysis of H3.3 ΔN32 dNuc. **Top Panel:** H3.3 Wild type (WT; Lane 1) and H3.3 ΔN32-containing nucleosomes (Lane 2) were probed with an anti-H3 COOH-terminal antibody and analyzed via ECL readout. **Bottom Panel:** Detail from Coomassie stained gel showing histones from H3.3 WT (Lane 1) and H3.3 ΔN32 nucleosomes (Lane 2).

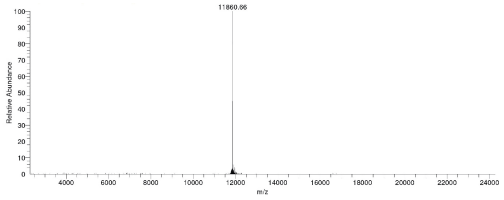

FIGURE 2 Mass spec data. Synthetic H3.3 ΔN32 histone analyzed by high resolution mass spectrometry. Expected mass = 11860.85 Da. Determined mass = 11,860.66 Da.

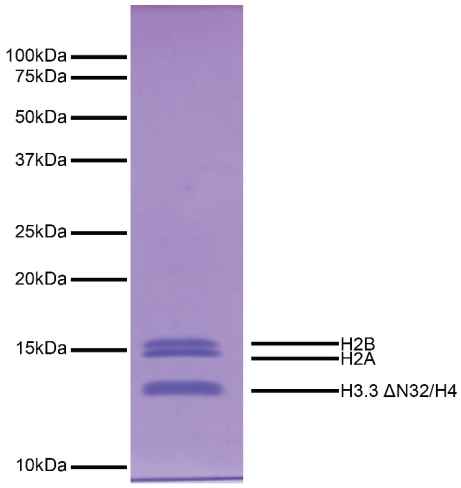

FIGURE 3 Protein gel data. Coomassie stained SDS-PAGE gel of proteins in H3.3 ΔN32 dNuc (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3.3 ΔN32 and H4) are indicated. H3.3 ΔN32 and H4 co-migrate.

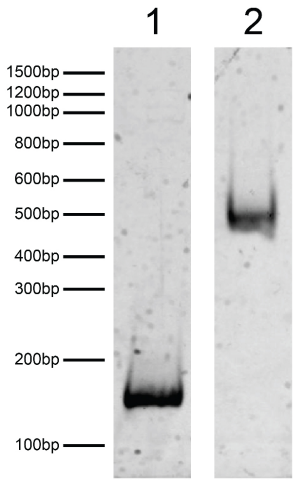

FIGURE 4 DNA gel data. H3.3 ΔN32 dNuc resolved via native PAGE gel and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (EpiCypher 18-0006; 100 ng). **Lane 2:** Intact H3.3 ΔN32 nucleosomes (400 ng).