Nucleosome, Recombinant Human, H3.1K27me3,S28phos, Biotinylated

Catalog No	16-0397	**Species**	Human
Lot No	23286002-02	**Source**	*E. coli* & synthetic DNA
Pack Size	50 µg	**Tag**	Biotinylated
Concentration	5.3 µM	**MW**	199,986.3 Da

DESCRIPTION

Recombinant mononucleosomes (H3.1K27me3,S28phos) consist of 147 base pairs of DNA wrapped around an octamer core of histone proteins (two each of H2A, H2B, H3.1, 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. H3.1K27me3,S28phos contains trimethyl-lysine at position 27 and phosphoserine at position 28 on histone H3.1. The DNA contains a 5' biotin-TEG group. H3S28 is an essential residue for modulating PRC2-mediated methylation at H3K27me3 [2].

TECHNICAL INFORMATION

Storage	Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid freeze/thaws
Formulation	1.05 mg/mL mononucleosome in 47.6 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol. (27.4 µg protein, 50 µg DNA + protein)

APPLICATION NOTES

H3.1K27me3,S28phos 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.

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) H3.1 - P68431 (alt. names: H3, H3/a, H3/b, H3/c, H3/d) H4 - P62805

REFERENCES

[1] Lowary & Widom *J. Mol. Biol.* (1998). PMID: 9514715
[2] Yung et al. (2015). PMID: 26004180

VALIDATION DATA

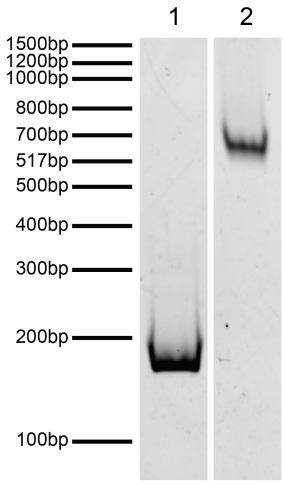

FIGURE 1 DNA gel data. H3.1K27me3,S28phos dNuc resolved via native PAGE and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (EpiCypher 18-0005; 100 ng). **Lane 2:** Intact H3.1K27me3,S28phos nucleosomes (400 ng).

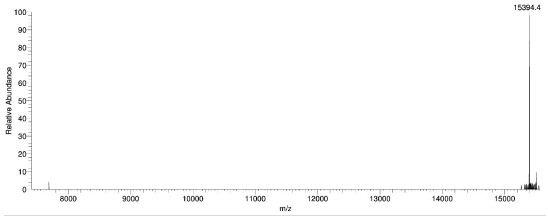

FIGURE 2 Mass spec data. Synthetic H3.1K27me3,S28phos histone analyzed by high resolution mass spectrometry. Expected mass = 15,394.9 Da. Determined mass = 15,394.4 Da.

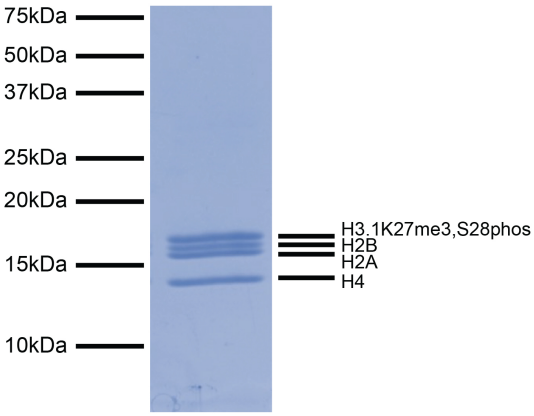

FIGURE 3 Protein gel data. Coomassie stained SDS-PAGE gel of proteins in H3.1K27me3,S28phos dNuc (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3.1K27me3,S28phos and H4) are indicated.