

Dinucleosomes, Recombinant Human, Biotinylated

Catalog No	16-3004	Species	Human
Lot No	22123002-02	Source	<i>E. coli</i> & synthetic DNA
Pack Size	25 µg	Tag	Biotinylated
Concentration	1.42 µM	MW	490,691 Da

DESCRIPTION

Products in EpiCypher's IDEA Toolbox (Innovation and Discovery of Epigenetic Applications) offer access to reagents without known or fully defined uses, enabling researchers to explore cutting-edge applications. Due to their novelty and unexplored potential, EpiCypher will engage in limited technical support.

Dinucleosomes are comprised of two recombinant octamers (each containing two copies of histone proteins H2A, H2B, H3.1, and H4) positioned on a single, 442 base pair DNA template. Mononucleosomes are the basic repeating unit of chromatin; however, a dinucleosome substrate enables studying longer range chromatin interactions. The DNA contains two 601 positioning sequences (underlined, below) separated by a 60 base pair linker and a 5' biotin-TEG group. The 601 sequence, identified by Lowary & Widom [1], has high affinity for histone octamers and is useful for nucleosome assembly.

TECHNICAL INFORMATION

Storage	Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid freeze/thaws.
Formulation	0.7 mg/mL dinucleosome in 35.9 µL 10 mM Tris pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol (11.1 µg protein, 25 µg DNA + protein)

APPLICATION NOTES

Dinucleosomes are 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.

DNA SEQUENCE

5'Biotin-TEG-GCCAGTGCCAAGCTTACTAGATATCGGACCCTATACGCGGCCGCCCTGGAGAATCCCGGTGCCGAGGCCGCT
 CAATTGGTTCGTAGCAAGCTCTAGCACCGCTTAAACGCACGTACGCGCTGTCCCCGCGTTTTAACCGCCAAGGGGATTACTC
 CCTAGTCTCCAGGCACGTGTCAGATATATACATCCTGTGCATGTGGATCCGAATTCATATTAATTAATACTAGATATCGGACC
 CTATACGCGGCCGCCCTGGAGAATCCCGGTGCCGAGGCCGCTCAATTGGTTCGTAGCAAGCTCTAGCACCGCTTAAACGCAC
 GTACGCGCTGTCCCCGCGTTTTAACCGCCAAGGGGATTACTCCCTAGTCTCCAGGCACGTGTCAGATATATACATCCTGTG
 CATGTGGATCCGAATTCATATTAATTAATGGTACCGAGCTCG-3'

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
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REFERENCES

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

VALIDATION DATA

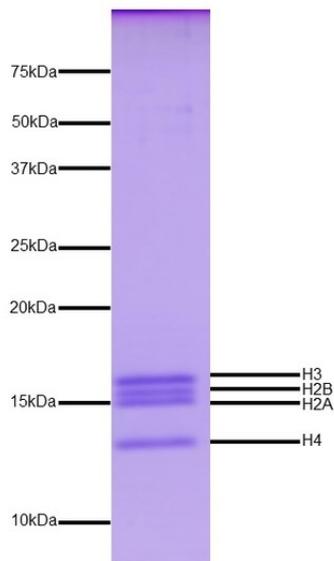


FIGURE 1: Protein gel data. Coomassie stained SDS-PAGE gel of proteins in Dinucleosomes (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3 and H4) are indicated.

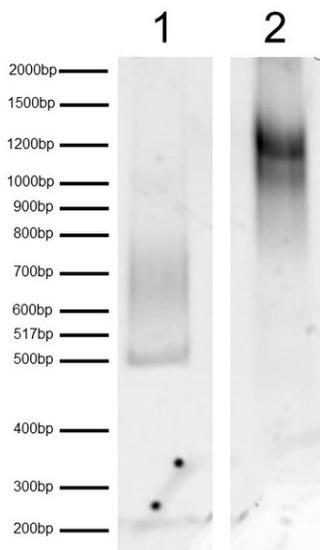


FIGURE 2: DNA gel data. Dinucleosomes resolved via native PAGE and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (100 ng). **Lane 2:** Intact dinucleosomes (400 ng).