Recombinant Mononucleosomes H3K9ac (EPL)

Catalog No: 81075
Lot No: 03318001
Expressed In: *E. coli*

Quantity: 20 µg
Concentration: 0.48 µg/µl
Source: Human

Buffer Contents: Recombinant Mononucleosomes H3K9ac (EPL) (20 µg protein + 20 µg DNA) are supplied in 10 mM Tris-HCl pH 8.0, 1 mM EDTA, 2 mM DTT and 20% glycerol.

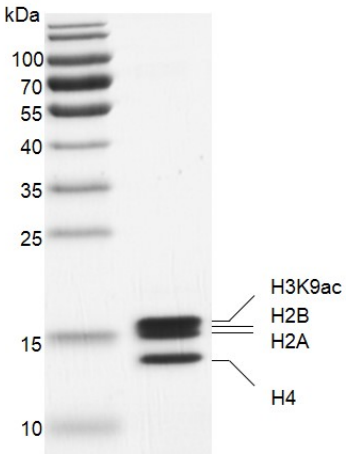
Background: *In vivo*, histones are wrapped around by DNA in chromatin. Therefore, nucleosomes are more physiologically relevant substrates than histones and histone-derived peptides for in vitro studies. More importantly, some histone methyltransferases are significantly more active, as well as specific, when using nucleosomal substrates in HMT assays, such as DOT1L and NSD family enzymes. Nucleosomes are also widely used in histone methyltransferase screening assays to identify small molecular inhibitors for drug discovery.

Protein Details: Recombinant Mononucleosomes H3K9ac (EPL) consist of a 167 bp of 601 DNA and two molecules each of histones H2A that includes amino acids 1-130 (end) (accession number NP_003503.1), H2B that includes amino acids 1-126 (end) (accession number NP_003509.1), H3.2 that includes amino acids 1-136 (end) (accession number NP_066403.2) with acetylation at lysine 9, and H4 that includes amino acids 1-103 (end) (accession number NP_003539.1). All of these histones were expressed in *E. coli* cells. The molecular weight of histone octamer is ~108 kDa.

H3K9ac (Histone H3 acetyl Lys9) protein is generated using expressed protein ligation (EPL) technology. Truncated human Histone H3.2 is produced in *E. coli* and purified using FPLC. The purified protein is subsequently ligated to a N-terminal histone tail peptide containing acetyl lysine 9 via a native peptide bond.

Application Notes: Recombinant Mononucleosomes H3K9ac (EPL) are suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

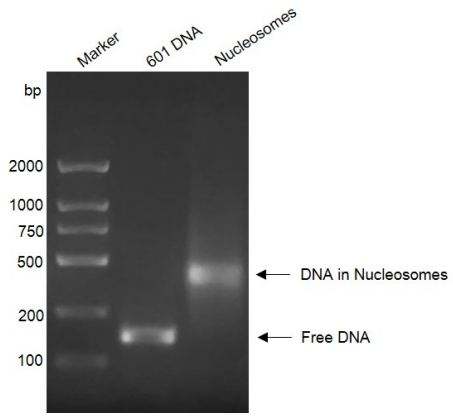
Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.



Recombinant Mononucleosomes H3K9ac (EPL) SDS PAGE

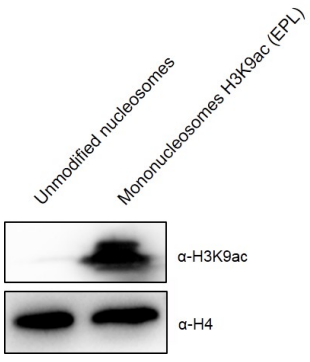
13% SDS-PAGE Coomassie staining

Purity: ≥ 95%



Recombinant Mononucleosomes H3K9ac (EPL) DNA gel

Mononucleosomes H3K9ac (EPL) were run on a 2% agarose gel and stained with ethidium bromide. Lane 1: DNA marker. Lane 2: 601 DNA. Lane 3: Intact nucleosome. Intact nucleosomes migrate much higher than free 601 DNA. The agarose gel result shows almost all of 601 DNA wraps histone octamers to form nucleosomes.



Western Blot analysis for Recombinant Mono-nucleosomes H3K9ac (EPL)

Unmodified nucleosomes (Lane 1) and Recombinant Mononucleosomes H3K9ac (EPL) (Lane 2) were detected with H3K9ac antibody (Cat. No. 39137) and H4 antibody (Cat. No. 61300), respectively. H3 was detected as loading control. Only Recombinant Mononucleosomes H3K9ac (EPL) can be detected by anti-H3K9ac antibody.