Recombinant Mononucleosomes H3K9me3 (EPL)

Catalog No: 31586, 31769
Expressed In:

Quantity: 20, 1000 µg
Concentration: 1.0 µg/µl
Source:

Buffer Contents: Recombinant Mononucleosomes H3K9me3 (EPL) (20 µg protein + 20 µg DNA) are supplied at a protein concentration of 1 µg/µl in 10 mM Tris-HCl, pH 8.0, 1 mM EDTA, 2 mM DTT and 20% glycerol.

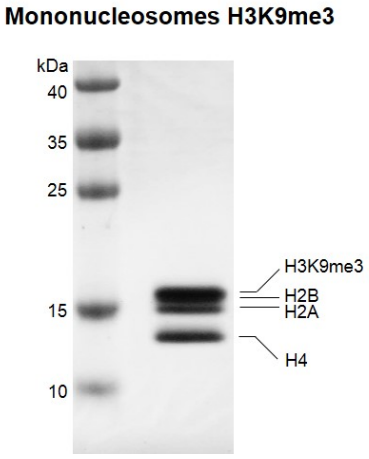
Background: *In vivo*, histones are wrapped around by DNA in chromatin. Therefore, nucleosomes are more physiologically relevant substrates than histones and histone-derived peptides for in vitro studies. More importantly, some histone methyltransferases are signi cantly more active, as well as speci c, 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 H3K9me3 (EPL) consist of 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 trimethylation 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.

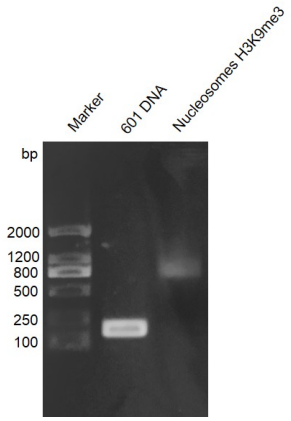
H3K9me3 (Histone H3 trimethyl Lys9) proteins are generated using expressed protein ligation (EPL) technology. Truncated human Histone H3.2 is produced in *E. coli* and purifed using FPLC. The purified protein is subsequently ligated to a N-terminal histone tail peptide containing trimethyl lysine 9 via a native peptide bond.

Application Notes: Recombinant Monoucleosomes H3K9me3 (EPL) are suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

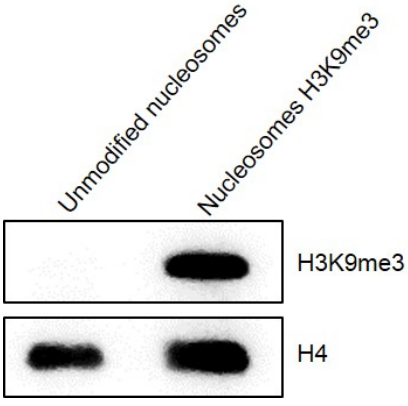
Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product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



Recombinant Mononucleosomes H3K9me3 (EPL) protein gel.
Recombinant Mononucleomes were run on a 12.5% SDS-PAGE gel and stained with Coomassie Blue.
Purity: ≥ 95%



Recombinant Mononucleosomes H3K9me3 (EPL) - DNA gel.
Mononucleosomes H3K9me3 (EPL) were run on a 2% agarose gel and stained with ethidium bromide. Lane 1: DNA marker. Lane 2: 601 DNA. Lane 3: Intact mononucleosomes. Intact mononucleosomes migrate much higher than free 601 DNA. The agarose gel result shows almost all of 601 DNA wraps histone octamers to form mononucleosomes.
Nucleosomes = Mononucleosomes



Western Blot analysis for Mononucleosomes H3K9me3 (EPL)
Unmofied mononucleosomes (Lane 1) and Mononucleosomes H3K9me3 (Lane 2) were detected with anti-H3K9me3 antibody and anti-H4 antibody, respectively. H4 was detected as loading control. Only Mononucleosomes H3K9me3 can be detected by anti-H3K9me3 antibody.
Nucleosomes = Mononucleosomes