Recombinant Mononucleosomes H3K27me3 (MLA)

Catalog No: 81134, 81834
Lot No: 08518001
Expressed In: *E. coli*

Quantity: 20, 1000 µg
Concentration: 0.52 µg/µl
Source: Human

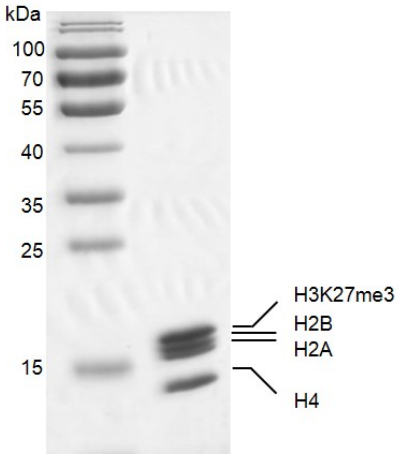
Buffer Contents: Recombinant Mononucleosomes H3K27me3 (MLA) (20 µg protein + 20 µg DNA) are supplied in 10 mM Tris-HCl pH 8.0, 1 mM EDTA, 2 mM DTT, and 20% glycerol.

Background: Histone H3 is one of the core components of the nucleosome. The nucleosome is the smallest subunit of chromatin and consists of 146 base pairs of DNA wrapped around an octamer of core histone proteins (two each of H2A, H2B, H3 and H4). Histone H1 is a linker protein, present at the interface between the nucleosome core and DNA entry/exit points. Recombinant Histone H3K27me3 (MLA) has been generated using the patented Methylated Lysine Analog (MLA)technology. In MLA, methylated histones are generated via a chemical alkylation reaction that substitutes a methylated analog of lysine, aminoethylcysteine, for the existing lysine at the desired residue. Aminoethylcysteine is structurally and chemically similar to lysine, though it contains a sulfide substitution in place of the lysine ϒ-methylene. The MLA technique provides precise control over the site and degree of methylation. The MLA technology is covered under U.S. Patent No. 8,278,112.

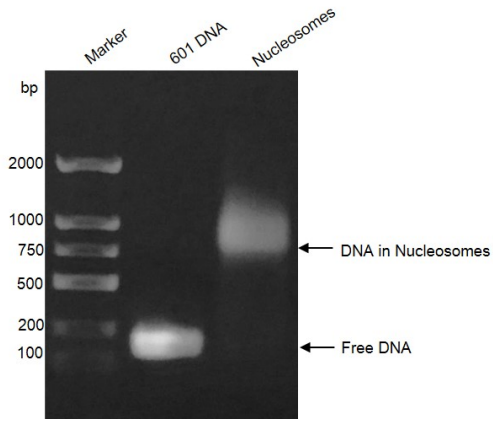
Protein Details: Recombinant Mononucleosomes H3K27me3 (MLA) consist of a 167 bp of 601 DNA and two molecules each of histones H2A that includes amino acids 1-130 (end) (accession number NM_003512), H2B that includes amino acids 1-126 (end) (accession number NM_003518), H3 trimethyl Lys27 (H3K27me3) (MLA) that includes amino acids 1-136 (end) (accession number NP_003520.1) with two substitutions (cysteine to serine at amino acid 96 and cysteine to alanine at amino acid 110), and H4 that includes amino acids 1-103 (end) (accession number NM_003548). All of these histones were expressed in *E. coli* cells. The molecular weight of histone octamer is 108 kDa.

Application Notes: Recombinant histones are suitable for use as positive controls in the analysis of histone posttranslational modifications, as substrates for histone modification enzymes, or to generate chromatin *in vitro*.

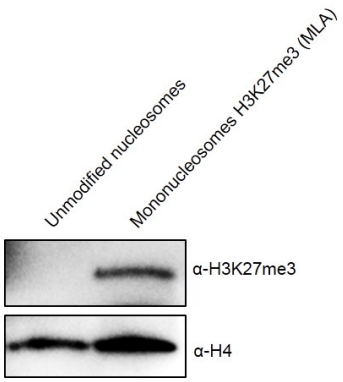
Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product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



Recombinant Mononucleosomes H3K27me3 (MLA) SDS-PAGE
12.5% SDS-PAGE Coomassie staining
MW: 108 kDa
Purity: >95%



Recombinant Mononucleosomes H3K27me3 (MLA) agarose gel
Recombinant Mononucleosomes H3K27me3 (MLA) were run on a 2% agarose gel and stained with ethidium bromide. Lane 1: DNA marker. Lane 2: 601 DNA. Lane 3: Intact monnucleosomes H3K27me3. Intact mononucleosomes H3K27me3 migrated much higher than free 601 DNA. The agarose gel shows that almost all of 601 DNA wrap histone octamers to form nucleosomes.



Western Blot analysis for Recombinant Mononucleosomes H3K27me3 (MLA)
Unmodified nucleosomes (Lane 1) and Recombinant Mononucleosomes H3K27me3 (MLA) (Lane 2) were detected with anti-H3K27me3 antibody and H4 antibody, respectively. H4 was detected as loading control. Only Recombinant Mononucleosomes H3K27me3 (MLA) can be detected by H3K27me3 antibody.