

Mononucleosomes H3.1 Recombinant Protein | H3.1 recombinant protein

Recombinant Mononucleosomes H3.1 (K4I)

CATALOG #
AAA60187

HOST
E Coli

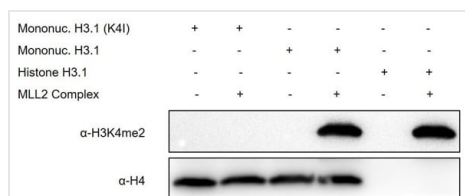
PRODUCT SYNONYMS

Mononucleosomes H3.1; Recombinant Mononucleosomes H3.1 (K4I); H3.1 recombinant protein

PRODUCT SPECIFICATIONS

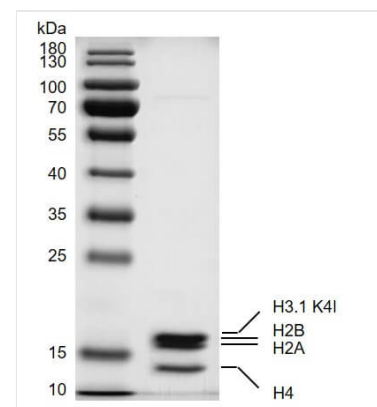
Host	E Coli
Form/Format	Recombinant Mononucleosomes H3.1 (K4I)(20ug protein + 20ug DNA) is supplied in 10mM Tris-HCl pH8.0, 1mM EDTA, 2mM DTT, and 20% glycerol.
Protein Species	Human
Protein Details	Recombinant Mononucleosomes H3.1 (K4I) consist of a 167 bp of 601 DNA and two molecules each of histones H2A that includes amino acids 1-130 (end)(accession number NM_003512), H2B that includes amino acids 1-126 (end)(accession number NM_003518), H3.1 that includes amino acids 1-136 (end)(accession number NM_003529) with a point mutation Lys4Ile, and H4 that includes amino acids 1-103 (end)(accession number NM_003548). All of these histones were expressed in E Coli cells.
Notes	Recombinant Mononucleosomes H3.1 (K4I) is suitable for use as substrate for histone modification enzymes, or to generate chromatin in vitro
Dry Ice Note	The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.
Preparation and Storage	Recombinant proteins in solution are temperature sensitive and must be stored at -80 degree C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. Shipping Temp: Dry Ice

IMAGES



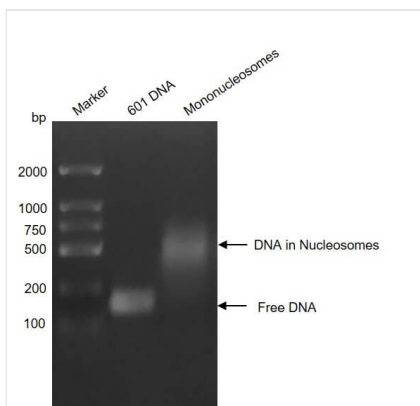
WB (Western Blot)

Western blot assay for Recombinant Mononucleosomes H3.1 (K4I) 2 ug Recombinant Mononucleosomes H3.1 (K4I) were incubated with 0 or 10 nM MLL2 Complex respectively in reaction buffer containing 50 mM Tris-HCl pH 8.6, 0.02% Triton X-100, 2 mM MgCl₂, 1 mM TCEP and 50 uM SAM for 3 hr at room temperature. Half of the reactions were run on a 12.5% SDS-PAGE gel and detected with H3K4me2 antibody and anti-H4 antibody, respectively. H4 was detected as loading control. Recombinant Mononucleosomes H3.1 and Histone H3.1 was used as a positive control. The result shows that no H3K4me2 products were generated when Mononucleosomes H3.1 (K4I) were incubated with MLL2 Complex.



SDS-PAGE

Recombinant Mononucleosomes H3.1 (K4I) 12.5% SDS-PAGE Coomassie staining MW: 108 kDa Purity: >95%



Application Data

Recombinant Mononucleosomes H3.1 (K4I) DNA gel Recombinant Mononucleosomes H3.1 (K4I) were run on a 2% agarose gel and stained with ethidium bromide. Lane 1: DNA marker. Lane 2: 601 DNA which was used for assembly of nucleosome. Lane 3: Intact mononucleosomes H3.1 (K4I). Intact Mononucleosomes H3.1 (K4I) migrated much higher than free 601 DNA. The agarose gel shows that almost all of 601 DNA wrapped histone octamers to form nucleosomes.

ADDITIONAL INFORMATION

Related Product Information for H3.1 recombinant protein

Short Description: 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. Histones are linked to tumorigenesis primarily through alterations in their PTMs and the enzymes regulating these modifications, suggesting that they might disrupt the reading, writing, and/or erasing of these marks. Mutations in histone H3 occur with high genetic penetrance within rare pediatric gliomas and sarcomas. In H3 variants, the mutation is most often a lysine-to-methionine (K-M) mutation, occasionally glycine mutations (G34R/V/W/L) occur too. According to researchers, mutations at H3K4: out of a total of 9 mutations at this site, 8 were a K4M/I substitution. More K-to-M/I mutations were observed, raising the possibility that the functional effects associated with known K-to-M/I changes (that is, function in a dominant fashion to block the methylation of corresponding lysines on wild type histones) may extend to additional contexts.

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Product Categories/Family for H3.1 recombinant protein

[Recombinant Proteins](#); [Histone](#)

NCBI AND UNIPROT INFORMATION

NCBI GenBank Nucleotide #	NM_003512
Molecular Weight	Molecular weight of histone octamer is 108kDa

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

