

## Mononucleosomes H3.3 Recombinant Protein | H3.3 recombinant protein

Recombinant Mononucleosomes H3.3 (K4I)-biotin

|                              |                       |
|------------------------------|-----------------------|
| CATALOG #<br><b>AAA60218</b> | HOST<br><b>E Coli</b> |
|------------------------------|-----------------------|

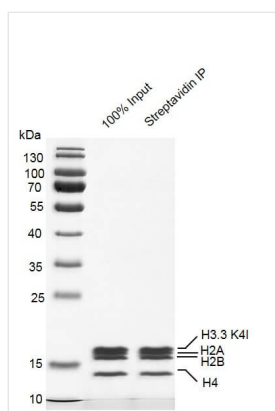
### PRODUCT SYNONYMS

Mononucleosomes H3.3; Recombinant Mononucleosomes H3.3 (K4I)-biotin; H3.3 recombinant protein

### PRODUCT SPECIFICATIONS

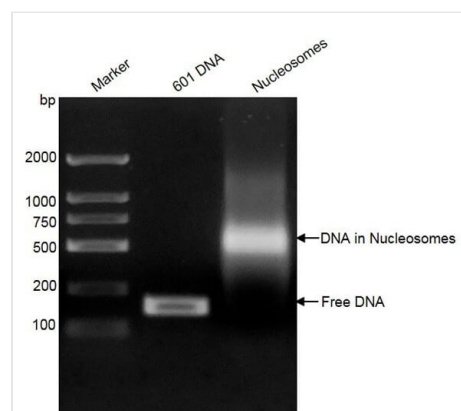
|                         |                                                                                                                                                                                                                        |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host                    | E Coli                                                                                                                                                                                                                 |
| Form/Format             | Recombinant Mononucleosomes H3.3 (K4I)-biotin are supplied in 10mM Tris-HCl pH8.0, 1mM EDTA, 2mM DTT, and 20% glycerol.                                                                                                |
| Protein Species         | Human                                                                                                                                                                                                                  |
| Notes                   | Recombinant Mononucleosomes H3.3 (K4I)-biotin are suitable for use as substrates 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.<br>Shipping Temp: Dry Ice |

### IMAGES



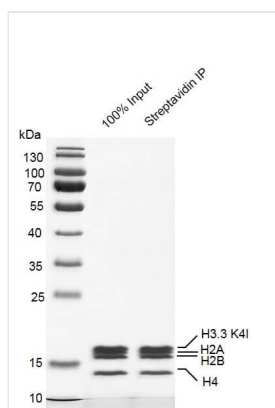
#### SDS-PAGE

Streptavidin pull down assay for Recombinant Mononucleosomes H3.3 (K4I) – biotin 24 ug biotinylated mononucleosomes were incubated with 10 ul streptavidin beads for 1hr at 4 degree C. Streptavidin beads were washed 3 times with 1 ml binding buffer. The beads were added to 60 ul 2×SDS loading buffer and boiled for 10 min at 95 degree C. 2.4 ul samples were loaded on a 12.5% SDS-PAGE gel and stained by Commassie blue. The SDS-PAGE gel result showed that almost all of biotinylated mononucleosomes were pulled down by streptavidin beads.



#### Application Data

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



#### SDS-PAGE

Recombinant Mononucleosomes H3.3 (K4I) – biotin 12.5% SDS-PAGE with Coomassie blue staining MW: 108 kDa Purity: >92%

## ADDITIONAL INFORMATION

### Related Product Information for H3.3 recombinant protein

**Short Description:** Recombinant Mononucleosomes H3.3 (K4I)-biotin consist of a 167 bp of 601 DNA with 5' biotin tag 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), H3.3 that includes amino acids 1-136 (end)(accession number NM\_005324) 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. The molecular weight of the histone octamer is 108 kDa. Recombinant Mononucleosomes H3.3 (K4I)-biotin are suitable for use as substrates for histone modification enzymes, or to generate chromatin in vitro.

**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. Histone H3.1 and Histone H3.3 are the two main Histone H3 variants found in plants and animals. They are known to be important for gene regulation. Histone H3.1 and H3.3 have been shown to demonstrate unique genomic localization patterns thought to be associated with their specific functions in regulation of gene activity. Specifically, Histone H3.3 primarily colocalizes with marks associated with gene activation (H3K4me3, H2BK120ub1, and RNA pol II occupancy). Deposition of the Histone H3.1 variant into the nucleosome correlates with the canonical DNA synthesis-dependent deposition pathway, whereas Histone H3.3 primarily serves as the replacement Histone H3 variant outside of S-phase, such as during gene transcription. Mutations in histone H3 occur with high genetic penetrance within rare paediatric gliomas and sarcomas. Researchers found that mutations at H3 N-terminal residues at or near PTM sites including R2, R8, K18 and R26 might act as oncohistones.

### Product Categories/Family for H3.3 recombinant protein

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

## NCBI AND UNIPROT INFORMATION

### NCBI GenBank Nucleotide #

[NM\\_003512](#)

### Molecular Weight

Molecular weight of the 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.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | [contact@aaabiotech.com](mailto:contact@aaabiotech.com)

Online datasheet: <https://stage.aaabiotech.com/mononucleosomes-h3-3-recombinant-protein-e-coli/60218>