

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

Recombinant Mononucleosomes H3.3 (R8C)

CATALOG # AAA60196	HOST E Coli
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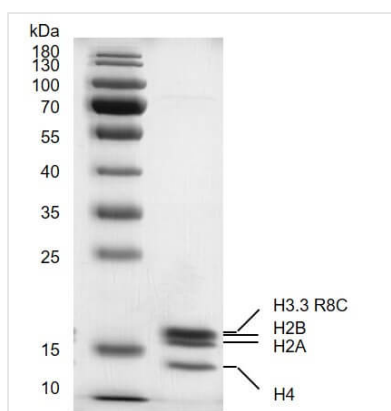
PRODUCT SYNONYMS

Mononucleosomes H3.3; Recombinant Mononucleosomes H3.3 (R8C); H3.3 recombinant protein

PRODUCT SPECIFICATIONS

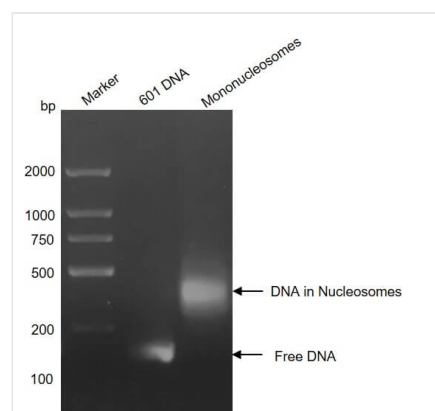
Host	E Coli
Form/Format	Recombinant Mononucleosomes H3.3 (R8C)(20ug protein + 20ug DNA) are supplied in 10mM Tris-HCl pH8.0, 1mM EDTA, 2mM DTT, and 20% glycerol.
Protein Species	Human
Protein Details	Recombinant Mononucleosomes H3.3 (R8C) consist of a 167 bp of 601 DNA and two molecules each of histones H2A that includes amino acids 1-130 (end)(accession number NM_003512), H2B that includes amino acids 1-126 (end)(accession number NM_003518), H3.3 that includes amino acids 1-136 (end)(accession number NP_002098.1) with a point mutation Arg8Cys, 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 H3.3 (R8C) 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



SDS-PAGE

Recombinant Mononucleosomes H3.3 (R8C) 12.5% SDS-PAGE gel with Coomassie Blue staining MW: 108 kDa Purity: >95%



Application Data

Recombinant Mononucleosomes H3.3 (R8C) DNA gel Recombinant Mononucleosomes H3.3 (R8C) 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 H3.3 (R8C). Intact mononucleosomes H3.3 (R8C) 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 H3.3 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. 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. 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. Except for being near K9, which can be methylated or acetylated, R8 site itself can be methylated too. Mutations in histone H3 occur with high genetic penetrance within rare pediatric 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. 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. 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. Except for being near K9, which can be methylated or acetylated, R8 site itself can be methylated too. 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 GI #	4504279
NCBI GeneID	3020
NCBI Accession #	NP_002098.1
NCBI GenBank Nucleotide #	NM_003512
UniProt Accession #	P84243; P06351; P33155; Q5VV55; Q5VV56; Q66I33; Q9V3W4
Molecular Weight	15,328 Da
NCBI Official Full Name	histone H3.3
NCBI Official Synonym Full Names	H3 histone, family 3A
NCBI Official Symbol	H3F3A
NCBI Official Synonym Symbols	H3F3; H3.3A
NCBI Protein Information	histone H3.3
UniProt Protein Name	Histone H3.3

UniProt Gene Name	H3F3A
UniProt Synonym Gene Names	H3.3A; H3F3
UniProt Entry Name	H33_HUMAN

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.

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Online datasheet: <https://stage.aaabiotech.com/h3f3a-recombinant-protein-e-coli/60196>