

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

Recombinant Polynucleosomes H3.3 (G34V)

CATALOG # AAA59750	HOST E Coli
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PRODUCT SYNONYMS

Polynucleosomes H3.3; Recombinant Polynucleosomes H3.3 (G34V); Histone H3.3; Histone H3; H3; G34V; H3.3 recombinant protein

PRODUCT SPECIFICATIONS

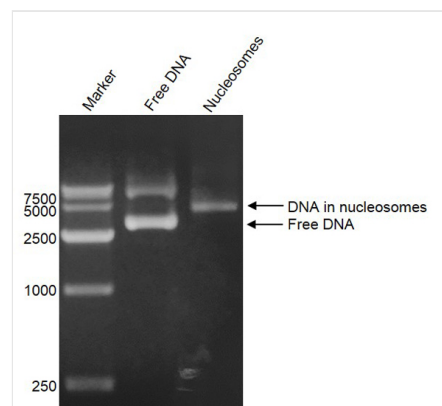
Host	E Coli
Purity/Purification	The recombinant protein is >95% pure by SDS-PAGE.
Form/Format	Human Recombinant Polynucleosomes H3.3 (G34V)(20ug protein+ 24ug DNA) are supplied in 10mM Tris pH8.0, 1mM EDTA, 2mM DTT, 20% glycerol.
Protein Species	Human
Notes	Recombinant Polynucleosomes H3.3 (G34V) are suitable as substrate for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.
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



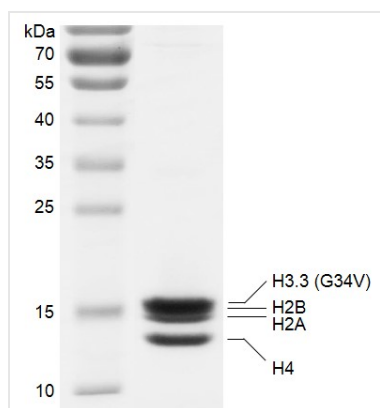
WB (Western Blot)

Histone methyltransferase activity assay comparing recombinant polynucleosomes and histone octamers as substrates. 2 ug Recombinant Polynucleosomes H3.3 (G34V) were incubated with DOT1L in reaction buffer for 3 hours at room temperature. Western Blot was used for detecting the generation of reaction products (H3K79me1). DOT1L only and polynucleosomes only were used as negative control. The Western Blot result shows that polynucleosomes are more suitable substrate for DOT1L than histone octamers.



Application Data

DNA Gel-shift assay for Recombinant Polynucleosomes H3.3 (G34V). Polynucleosomes H3.3 (G34V) and free plasmid DNA were run on a 1% agarose gel and stained with ethidium bromide. Intact polynucleosomes migrate much higher than free DNA, thus the DNA resolves at a higher molecular weight when nucleosome-bound.



SDS-PAGE

Recombinant Polynucleosomes H3.3 (G34V) Polynucleosomes were run on a 12% SDS-PAGE gel and stained with Coomassie Blue.

ADDITIONAL INFORMATION

Related Product Information for H3.3 recombinant protein

Short Description: Recombinant Human Polynucleosomes (G34V) protein contains a Gly34Val point mutation. Nucleosomes comprise the smallest subunit of chromatin; they consist of 147 bp of DNA wrapped around an octamer of core histone proteins (H2A, H2B, H3 and H4). Therefore, nucleosomes are more physiologically relevant substrates than histones and histone-derived peptides for use in 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.

Background: In vivo, the nucleosome is the basic structural unit of chromatin. It is comprised of about 146 bp of DNA wrapped around a core of eight histones of four different types: H2A, H2B, H3 and H4. Histones are subject to posttranslational modifications, such as methylation, acetylation, phosphorylation and mono-ubiquitination. Histone modifications influence multiple chromatin-templated processes such as gene transcription, DNA repair and recombination. Besides the "major" histones, there are some histone variants in specific regions of chromatin or in specific cell types. Histone variants are involved in multiple processes including chromosome segregation, DNA repair, transcriptional regulation and mRNA processing. Histone H3.3 point mutations (K27 and G34) are found in 1/3 of pediatric glioblastomas. Up to 78% of diffuse intrinsic pontine gliomas (DIPGs) carry K27M and 36% of non-brainstem gliomas carry either K27M or G34R/V mutations. High-frequency mutation of histone H3 to K36M is observed in chondroblastomas, as is the mutation G34W/L in giant cell tumors of bone, diseases of adolescents and young adults. Histone H3.3 mutations drive pediatric glioblastoma through upregulation of MYCN. 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.

Product Categories/Family for H3.3 recombinant protein

Recombinant Proteins; Histone

NCBI AND UNIPROT INFORMATION

NCBI GenBank Nucleotide

NM_003512

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://www.aaabiotech.com/polynucleosomes-h3-3-recombinant-protein-e-coli/59750>