

Mononucleosomes Recombinant Protein | H2AFB2 recombinant protein

Recombinant Mononucleosomes (H2A.Bbd)-biotinylated

CATALOG #
AAA59747

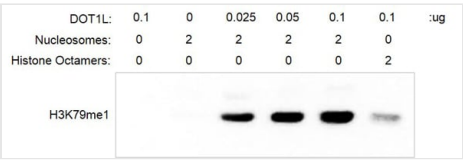
HOST
E Coli

PRODUCT SYNONYMS

Mononucleosomes; Recombinant Mononucleosomes (H2A.Bbd)-biotinylated; H2A.Bbd; H2AFB2 recombinant protein

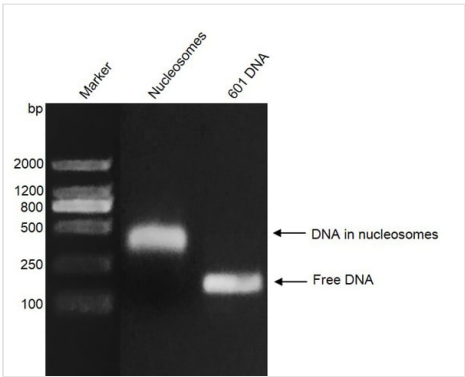
PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	The recombinant protein is >95% pure by SDS-PAGE.
Form/Format	Recombinant Mononucleosomes (H2A.Bbd)-biotinylated (20ug protein + 20ug DNA) are supplied in 10mM Tris-HCl, pH8.0, 1mM EDTA, 2mM DTT and 20% glycerol. Please refer to product insert upon arrival for lot-specific concentration.
Protein Species	Human
Conjugation	Biotinylated
Protein Details	Recombinant Mononucleosomes (H2A.Bbd)-biotinylated, consist of 167 bp of 601 DNA with a 5' biotin tag and two molecules each of histones H2A.Bbd that includes amino acids 1-115 (end)(accession number NP_001017991.1), H2B that includes amino acids 1-126 (end)(accession number NP_003509.1), H3 that includes amino acids 1-136 (end)(accession number NP_003520.1), and H4 that includes amino acids 1-103 (end)(accession number NP_003539.1). All of these histones were expressed in E Coli.
Notes	Recombinant Mononucleosomes (H2A.Bbd)-biotinylated, are suitable for use as substrates 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



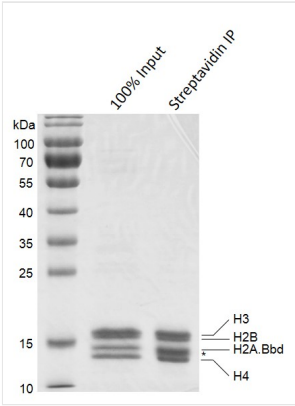
WB (Western Blot)

Western Blot analysis for Mononucleosomes (H2A.Bbd) - biotinylated 2 ug Recombinant Mononucleosomes (H2A.Bbd) were incubated with DOT1L in reaction buffer for 3 h at room temperature. Western Blot was used for detecting the generation of reaction products (H3K79me1). DOT1L only and mononucleosomes only were used as negative control. The Western Blot result shows that mononucleosomes are more suitable substrate for DOT1L than histone octamers.



Application Data

Recombinant Mononucleosomes (H2A.Bbd) - biotinylated DNA gel Biotinylated Mononucleosomes (H2A.Bbd) were run on a 2% agarose gel and stained with ethidium bromide. Lane 1: Intact mononucleosomes. Lane 2: 601 DNA which was used for assembly of mononucleosomes. Intact mononucleosomes migrate much higher than free DNA. The agarose gel result shows that almost all of 601 DNA wrap histone octamers to form mononucleosomes.



SDS-PAGE

Streptavidin Pull-down for Recombinant Mononucleosomes (H2A.Bbd) - biotinylated Mononucleosomes (H2A.Bbd) were pulled down by streptavidin beads. Input mononucleosomes (Lane 1) and the mononucleosomes pulled down by streptavidin (Lane 2) were run on a 12.5% SDS-PAGE gel and stained with Coomassie Blue. The SDS-PAGE gel result shows that more than 80% biotinylated nucleosomes (H2A.Bbd) are pulled down by streptavidin beads. * indicates streptavidin.

ADDITIONAL INFORMATION

Related Product Information for H2AFB2 recombinant protein	Short Description: 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, made up 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. H2A.Bbd (Barr Body Deficient) is a histone H2A family member. H2A.Bbd is one of the most rapidly evolving variants, which shares 48% sequence identity with the major H2A histone. H2A.Bbd is excluded from the inactive X chromosome and is enriched in active regions of genome. H2A.Bbd is enriched at sites of DNA synthesis. H2A.Bbd nucleosomes are less stable than those bearing the major H2A histone and to organize only 118 bp of DNA, indicating that DNA in H2A.Bbd chromatin may be more accessible and, thus, more amenable to transcription. H2A.Bbd is involved in mammalian spermiogenesis. 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 H2AFB2 recombinant protein	Recombinant Proteins; Histone

NCBI AND UNIPROT INFORMATION

NCBI GI #	63029943
NCBI GeneID	474381
NCBI Accession #	NP_001017991.1; NP_003509.1; NP_003520.1; NP_003539.1
NCBI GenBank Nucleotide #	NM_001017991.2
UniProt Accession #	P0C5Z0; P98176; Q5TZB2; Q6FG78; Q96PR7; A1L4E4
Molecular Weight	12,713 Da
NCBI Official Full Name	histone H2A-Bbd type 2/3
NCBI Official Synonym Full Names	H2A histone family member B2
NCBI Official Symbol	H2AFB2
NCBI Official Synonym Symbols	H2A.Bbd
NCBI Protein Information	histone H2A-Bbd type 2/3
UniProt Protein Name	Histone H2A-Bbd type 2/3
UniProt Gene Name	H2AFB2
UniProt Synonym Gene Names	H2ABBD; H2AFB; H2A.Bbd

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/h2afb2-recombinant-protein-e-coli/59747>