

# Mononucleosomes H3K4me3/H3K27ac Recombinant Protein | H3K4me3/H3K27ac recombinant protein

Recombinant Mononucleosomes H3K4me3/H3K27ac-biotin

|                              |                                 |
|------------------------------|---------------------------------|
| CATALOG #<br><b>AAA60100</b> | HOST<br><b>E Coli/Synthetic</b> |
|------------------------------|---------------------------------|

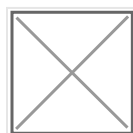
## PRODUCT SYNONYMS

Mononucleosomes H3K4me3/H3K27ac; Recombinant Mononucleosomes H3K4me3/H3K27ac-biotin; H3K4me3/H3K27ac recombinant protein

## PRODUCT SPECIFICATIONS

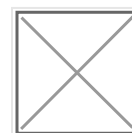
|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host                    | E Coli/Synthetic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Form/Format             | Recombinant Mononucleosomes H3K4me3/K27ac-biotinylated (10ug protein + 10ug DNA) is supplied at a protein concentration of 0.36ug/ul in 10mM Tris-HCl, pH8.0, 1mM EDTA, 2mM DTT and 20% glycerol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Protein Species         | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Conjugation             | Acetylated, Biotinylated, Methylated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Protein Details         | Recombinant Mononucleosomes H3K4me3/K27ac-biotinylated 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 NP_003503.1), H2B that includes amino acids 1-126 (end)(accession number NP_003509.1), H3.1 that includes amino acids 1-136 (end)(accession number NP_003520.1) with trimethylation at lysine 4 and acetylation at lysine 27, and H4 that includes amino acids 1-103 (end)(accession number NP_003539.1). Histone H2A, H2B and H4 were expressed in E Coli cells. Histone H3K4me3/K27ac was synthesized completely. H3K4me3/K27ac corresponds to the native histone sequence and does not contain any amino acid substitutions or residue analogs. |
| Notes                   | Recombinant Mononucleosomes H3K4me3/K27ac-biotinylated are suitable for use as substrate of enzymatic assay or other biochemical assay.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 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



### WB (Western Blot)

Western Blot analysis of Recombinant Mononucleosomes H3K4me3/H3K27ac - biotin. Unmodified nucleosomes (Lane 1) and Recombinant Mononucleosomes H3K4me3/K27ac - biotin (Lane 2) were detected with antibody anti-H3K4me3, anti-H3K27ac and anti-H4, respectively. H4 was detected as loading control. Only Recombinant Mononucleosomes H3K4me3/K27ac - biotin can be detected by anti-H3K4me3 and anti- H3K27ac antibody.



### Application Data

Recombinant Mononucleosomes H3K4me3/H3K27ac - biotin, DNA gel. Recombinant Mononucleosomes H3K4me3/K27ac - biotin were run on a 2% agarose gel and stained with ethidium bromide. Lane 1: DNA marker. Lane 2: 601 DNA. Lane 3: Intact mononucleosomes H3K4me3/K27ac. Intact mononucleosomes H3K4me3/K27ac migrated much higher than free 601 DNA. The agarose gel result shows almost all of 601 DNA wrap histone octamers to form nucleosomes.



#### Mass Spec

Mass Spec analysis for Recombinant Mononucleosomes H3K4me3/H3K27ac - biotin.  
Synthetic H3K4me3/K27ac protein was analyzed by ESI-TOF mass spectrometry. Expected mass = 15357.8 Da. Determined mass = 15357.4 Da.

### ADDITIONAL INFORMATION

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|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Related Product Information for H3K4me3/H3K27ac recombinant protein</b> | <p>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.</p> <p>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.</p> |
| <b>Product Categories/Family for H3K4me3/H3K27ac recombinant protein</b>   | <a href="#">Recombinant Proteins</a> ; <a href="#">Histone</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### NCBI AND UNIPROT INFORMATION

|                                         |                                                                                                                                                                              |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NCBI GI #</b>                        | <a href="#">4504245</a>                                                                                                                                                      |
| <b>NCBI GeneID</b>                      | <a href="#">8334</a>                                                                                                                                                         |
| <b>NCBI Accession #</b>                 | <a href="#">NP_003503.1</a> ; <a href="#">NP_003509.1</a> ; <a href="#">NP_003520.1</a> ; <a href="#">NP_003539.1</a>                                                        |
| <b>NCBI GenBank Nucleotide #</b>        | <a href="#">NM_003512.3</a>                                                                                                                                                  |
| <b>UniProt Accession #</b>              | <a href="#">Q93077</a> ; <a href="#">O00775</a> ; <a href="#">O00776</a> ; <a href="#">O00777</a> ; <a href="#">O00778</a> ; <a href="#">Q540R1</a> ; <a href="#">B2R4F7</a> |
| <b>Molecular Weight</b>                 | 14,105 Da                                                                                                                                                                    |
| <b>NCBI Official Full Name</b>          | histone H2A type 1-C                                                                                                                                                         |
| <b>NCBI Official Synonym Full Names</b> | histone cluster 1 H2A family member c                                                                                                                                        |
| <b>NCBI Official Symbol</b>             | HIST1H2AC                                                                                                                                                                    |
| <b>NCBI Official Synonym Symbols</b>    | H2A/I; H2AFL; dJ221C16.4                                                                                                                                                     |
| <b>NCBI Protein Information</b>         | histone H2A type 1-C                                                                                                                                                         |
| <b>UniProt Protein Name</b>             | Histone H2A type 1-C                                                                                                                                                         |
| <b>UniProt Gene Name</b>                | <b>HIST1H2AC</b>                                                                                                                                                             |
| <b>UniProt Synonym Gene Names</b>       | H2AFL                                                                                                                                                                        |

**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.