EpiCypher®

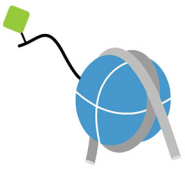
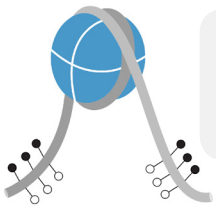
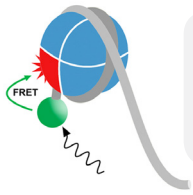
Bringing Epigenetics to Life

# Functionalized Recombinant Nucleosomes

## For Drug Discovery and Chromatin Research

Functionalized Nucleosome Substrates for Drug Discovery and Chromatin Research

## Nucleosomes are the physiological target of readers, writers and erasers that interact with or modify chromatin. The incorporation of nucleosome substrates into drug discovery assays is a dramatic improvement over peptides, providing access to historically challenging targets.

| | Features | Benefits |
|---|---|---|
|  | **dNucs™** *Designer Nucleosomes*<br>• Contain physiological histone PTMs<br>• 601 Nucleosome positioning sequence (biotinylated or non-biotinylated) | • Suitable for enzyme assays and high-throughput screening<br>• Suitable for protein-protein interaction studies involving the modification of interest |
|  | **rNucs™** *Recombinant Nucleosomes*<br>• Fully recombinant human histones<br>• 601 Nucleosome positioning sequence (biotinylated or non-biotinylated) | • Devoid of post-translational modifications<br>• Suitable for enzyme assays, inhibitor testing and high-throughput screening |
|  | **oncoNucs™** *Oncogenic Nucleosomes*<br>• Contains specific mutations associated with cancer<br>• 601 Nucleosome positioning sequence (biotinylated or non-biotinylated) | • Study effects of mutations on enzyme activity<br>• Suitable for high-throughput screening and inhibitor testing |
|  | **vNucs™** *Histone Variant Nucleosomes*<br>• Includes one of several histone variants<br>• 601 Nucleosome positioning sequence (biotinylated or non-biotinylated) | • Study effects of mutations on enzyme activity<br>• Suitable for high-throughput screening and inhibitor testing |
|  | **methyl DNA Nucs**<br>• Hemi-methylated 601 Nucleosome positioning sequence<br>• Methylated DNA can be assembled on modified octamers upon request | • Study effects of DNA methylation on enzyme activity<br>• Suitable for enzyme assays, inhibitor testing and high-throughput screening |
|  | **EpiDyne®** *Chromatin Remodeling Assay Substrates*<br>• Nucleosome positioning sequence with an added nucleosome acceptor sequence<br>• Functionalized DNA or histones to enable HTS assay development | • Suitable for high-throughput screening and inhibitor testing<br>• Can be used for structural studies |
|  | **SNAP-ChIP® Panels**<br>• DNA-barcoded 601 Nucleosome positioning sequence<br>• Contain physiological histone PTMs | • Quantitative spike-in controls for ChIP<br>• Antibody specificity testing<br>• Monitor experimental variability |

# dNucs: Designer Recombinant Nucleosomes With PTMs (Biotinylated)*

## dNucs
### Histone Lysine Methylation

| | | |
|---|---|---|
| H3K4me1 | 16-0321 | 50 µg |
| H3K4me2 | 16-0334 | 50 µg |
| H3K4me3 | 16-0316 | 50 µg |
| H3K9me1 | 16-0325 | 50 µg |
| H3K9me2 | 16-0324 | 50 µg |
| H3K9me3 | 16-0315 | 50 µg |
| H3K27me1 | 16-0338 | 50 µg |
| H3K27me2 | 16-0339 | 50 µg |
| H3K27me3 | 16-0317 | 50 µg |
| H3K36me1 | 16-0322 | 50 µg |
| H3K36me2 | 16-0319 | 50 µg |
| H3K36me3 | 16-0320 | 50 µg |
| H3K79me1 | 16-0367 | 50 µg |
| H3K79me2 | 16-0368 | 50 µg |
| H3K79me3 | 16-0369 | 50 µg |
| H4K20me1 | 16-0331 | 50 µg |
| H4K20me2 | 16-0332 | 50 µg |
| H4K20me3 | 16-0333 | 50 µg |

* Non-biotinylated available upon request

## dNucs
### Other PTMs

| | | |
|---|---|---|
| H2AUb* | 16-0020 | 50 µg |
| H2AK119ub Coming Soon | 16-0363 | 50 µg |
| H2BK120ub | 16-0370 | 50 µg |
| H3R2,8,17cit | 16-0362 | 50 µg |
| H3S10ph | 16-0345 | 50 µg |

* *Enzymatically-modified; contains ubiquitination at H2AK13/15 and H2AK119.*

## dNucs
### Histone Arginine Methylation

| | | |
|---|---|---|
| H2AR3me1 | 16-0359 | 50 µg |
| H2AR3me2a | 16-0360 | 50 µg |
| H2AR3me2s | 16-0361 | 50 µg |
| H3R2me1 | 16-0340 | 50 µg |
| H3R2me2a | 16-0341 | 50 µg |
| H3R2me2s | 16-0355 | 50 µg |
| H4R3me1 | 16-0356 | 50 µg |
| H4R3me2a | 16-0357 | 50 µg |
| H4R3me2s | 16-0358 | 50 µg |

## dNucs
### Histone Acylation

| | | |
|---|---|---|
| H3K4ac | 16-0342 | 50 µg |
| H3K9ac | 16-0314 | 50 µg |
| H3K9bu | 16-0371 | 50 µg |
| H3K9cr Coming Soon | 16-0351 | 50 µg |
| H3K14ac | 16-0343 | 50 µg |
| H3K18ac | 16-0372 | 50 µg |
| H3K18bu | 16-0373 | 50 µg |
| H3K18cr | 16-0337 | 50 µg |
| H3K23ac | 16-0364 | 50 µg |
| H3K27ac | 16-0365 | 50 µg |
| H4K5ac | 16-0352 | 50 µg |
| H4K8ac | 16-0353 | 50 µg |
| H4K12ac | 16-0312 | 50 µg |
| H4K16ac Coming Soon | 16-0354 | 50 µg |
| H3K4,9,14,18ac | 16-0336 | 50 µg |
| H3K4me3, K9,14,18ac | 16-0335 | 50 µg |
| H4K5,8,12,16ac | 16-0313 | 50 µg |

# Other Recombinant Nucleosomes (Biotinylated)*

## oncoNucs
### AA Substitutions Implicated in Cancer

| | | |
|---|---|---|
| H3.3K4M | 16-0349 | 50 µg |
| H3.3K9M | 16-0350 | 50 µg |
| H3.3K27M | 16-0323 | 50 µg |
| H3.3G34R Coming Soon | 16-0346 | 50 µg |
| H3.3G34V | 16-0347 | 50 µg |
| H3.3G34W | 16-0348 | 50 µg |
| H3.3K36M | 16-0344 | 50 µg |

## vNucs
### Histone Variants

| | | |
|---|---|---|
| H2AX | 16-0013 | 50 µg |
| H2AZ.1 | 16-0014 | 50 µg |
| H2AZ.2 | 16-0015 | 50 µg |
| H3.3 | 16-0011 | 50 µg |
| H3.3, non-biotinylated | 16-0012 | 100 µg |
| H2AXS139phos | 16-0366 | 50 µg |

## methyl DNA Nucs

| | | |
|---|---|---|
| Mononucleosomes, Hemi-methylated, Biotinylated | 16-2003 | 50 µg |
| Mononucleosomes, Hemi-methylated | 16-2103 | 50 µg |
| Mononucleosomes, 187x601 DNA, Biotinylated | 16-2004 | 50 µg |
| Mononucleosomes, 187x601 DNA | 16-2104 | 50 µg |

## rNucs
### Human Recombinant, No PTMs

| | | |
|---|---|---|
| Mononucleosomes, biotinylated | 16-0006 | 50 µg |
| Mononucleosomes, non-biotinylated | 16-0009 | 100 µg |

* Non-biotinylated available upon request

**Custom nucleosome synthesis available.**

Please email us at info@epicypher.com for additional information and pricing or complete a Request for Quote form on our website.

Functionalized Nucleosome Substrates for Drug Discovery and Chromatin Research

## Recombinant Nucleosome Remodeling Substrates

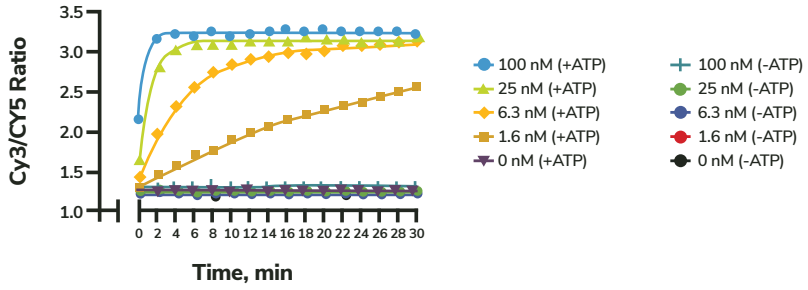
### EpiDyne®

Monitor Nucleosome Remodeling *in vitro*

| | | |
|---|---|---|
| EpiDyne® FRET Nucleosome Remodeling Assay Substrate | 16-4201 | 50 µg |
| EpiDyne® Nucleosome Remodeling Assay Substrate ST601-GATC1 | 16-4101 | 50 µg |
| EpiDyne® Remodeling Assay Substrate DNA ST601-GATC0 | 18-4100 | 50 µg |
| EpiDyne® Remodeling Assay Substrate DNA ST601-GATC1 | 18-4101 | 50 µg |

## ATP-dependent nucleosome remodeling enzyme complex

ACF Remodeling Enzyme Complex 15-1013 100 reactions

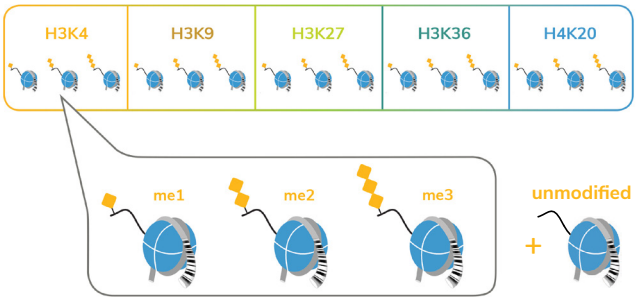



**ACF Chromatin Remodeling Assay:**

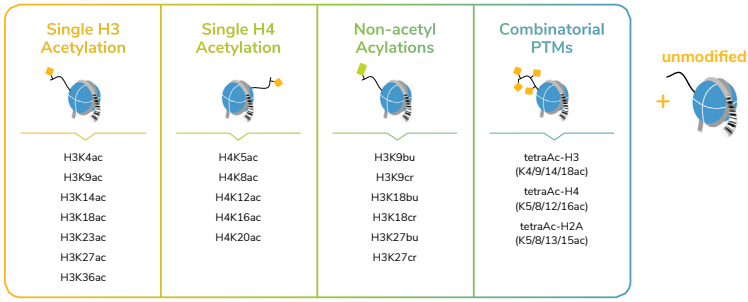
Assays were performed using EpiDyne®-FRET nucleosome remodeling substrate. EpiDyne®-FRET was incubated with increasing amounts of ACF Remodeling Enzyme Complex (as indicated), with or without ATP. ACF remodeling activity was measured by changes in FRET (Cy3/Cy5 ratio).

## SNAP-ChIP® spike-in panels

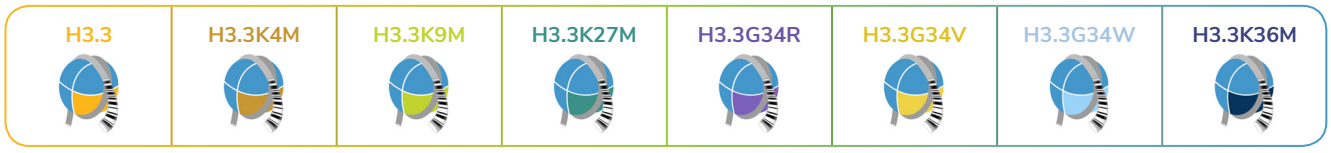
**K-MetStat Panel** (Cat. No. 19-1001)




**K-AcylStat Panel** (Cat. No. 19-3001)




**OncoStat Panel** (Cat. No. 19-2001)




## ORDERING INFO

**Let's discuss your project**
sales@epicypher.com

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epicypher.com/nucleosomes

**To place an order**
sales@epicypher.com

**Coming Soon**
R-MetStat panel

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EpiCypher.com
855.374.2461
info@epicypher.com