# Mono-methyl-Histone H4 (K16) Recombinant Monoclonal Antibody

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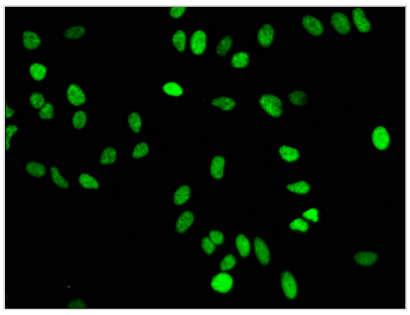
| **Product Code** | CSB-RA010429A16me1HU |
| **Abbreviation** | Histone H4 |
| **Storage** | Upon receipt, store at -20°C or -80°C. Avoid repeated freeze. |
| **Uniprot No.** | P62805 |
| **Immunogen** | A synthesized peptide |
| **Species Reactivity** | Human, Rat |
| **Tested Applications** | ELISA, IF; Recommended dilution: IF:1:30-1:200 |
| **Relevance** | Core component of nucleosome. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA accessibility is regulated via a complex set of post-translational modifications of histones, also called histone code, and nucleosome remodeling. |
| **Form** | Liquid |
| **Conjugate** | Non-conjugated |
| **Storage Buffer** | Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. |
| **Purification Method** | Affinity-chromatography |
| **Isotype** | Rabbit IgG |
| **Clonality** | Monoclonal |
| **Alias** | Histone H4, HIST1H4A, H4/A, H4FA, AND, HIST1H4B, H4/I, H4FI, AND, HIST1H4C, H4/G, H4FG, AND, HIST1H4D, H4/B, H4FB, AND, HIST1H4E, H4/J, H4FJ, AND, HIST1H4F, H4/C, H4FC, AND, HIST1H4H, H4/H, H4FH, AND, HIST1H4I, H4/M, H4FM, AND, HIST1H4J, H4/E, H4FE, AND, HIST1H4K, H4/D, H4FD, AND, HIST1H4L, H4/K, H4FK, AND, HIST2H4A, H4/N, H4F2, H4FN, HIST2H4, AND, HIST2H4B, H4/O, H4FO, AND, HIST4H4 |
| **Immunogen Species** | Homo sapiens (Human) |
| **Research Area** | Epigenetics and Nuclear Signaling |
| **Gene Names** | HIST1H4A |
| **Clone No.** | 3E11 |
| **Image** | |



Immunofluorescence staining of Hela cells with CSB-RA010429A16me1HU at 1:50,counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4?.The secondary antibody was Alexa Fluor 488-congugated AffiniPure Goat Anti-Rabbit IgG (H+L).

## Description

The generation of the mono-methyl-Histone H4 (K16) recombinant monoclonal antibody entails a multi-step process that initiates with the cloning of the genes responsible for encoding the HIST1H4A antibody. These genes, encompassing both the heavy and light chains, are integrated into expression vectors designed for optimal performance. The next phase involves the introduction of the expression vectors into host cells through transfection, where the host cells are subsequently tasked with the production and secretion of the antibody. To ensure its purity and efficacy, the antibody then undergoes a meticulous purification procedure utilizing affinity chromatography. Once purified, the antibody is put through ELISA and IF tests, ultimately enabling precise and reliable detection of the human and rat HIST1H4A proteins mono-methylated at K16.

Mono-methylation of HIST1H4A at K16 primarily functions in chromatin compaction, transcriptional repression, DNA repair, cellular identity, long-range chromatin interactions, and epigenetic memory, and has implications in various diseases. It is a crucial epigenetic modification that helps regulate gene expression and chromatin structure.