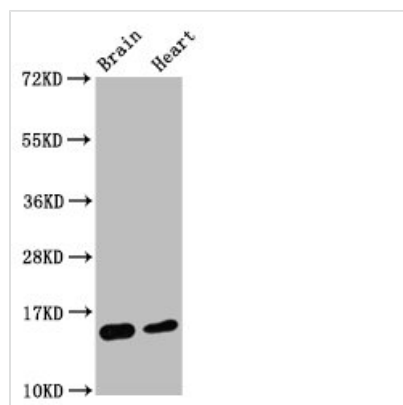




Di-methyl-Histone H3.1 (K4) Recombinant Monoclonal Antibody

Product Code	CSB-RA010418A04me2HU
Abbreviation	Histone H3.1
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P68431
Immunogen	A synthesized peptide
Species Reactivity	Human, Mouse
Tested Applications	ELISA, WB, ICC, IF, FC; Recommended dilution: WB:1:500-1:2000, ICC:1:50-1:500, 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 H3.1, Histone H3/a, Histone H3/b, Histone H3/c, Histone H3/d, Histone H3/f, Histone H3/h, Histone H3/i, Histone H3/j, Histone H3/k, Histone H3/l, HIST1H3A, H3FA, AND, HIST1H3B, H3FL, AND, HIST1H3C, H3FC, AND, HIST1H3D, H3FB, AND, HIST1H3E, H3FD, AND, HIST1H3F, H3FI, AND, HIST1H3G, H3FH, AND, HIST1H3H, H3FK, AND, HIST1H3I, H3FF, AND, HIST1H3J, H3FJ
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling
Gene Names	HIST1H3A
Clone No.	6F6
Image	



Western Blot

Positive WB detected in Mouse brain tissue, Mouse heart tissue

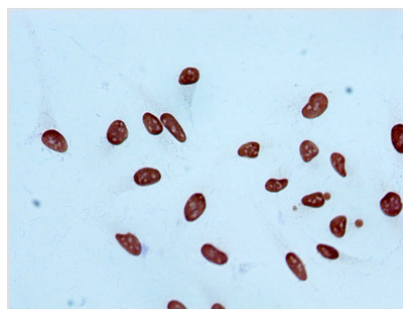
All lanes Di-methyl-Histone H3.1(K4)antibody at 0.55μg/ml

Secondary

Goat polyclonal to rabbit IgG at 1/50000 dilution

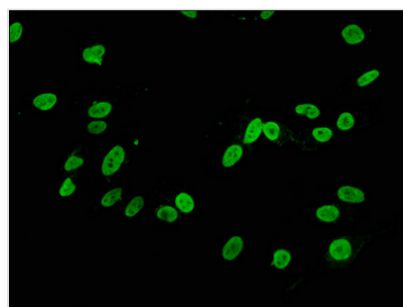
Predicted band size: 15 KDa

Observed band size: 15 KDa

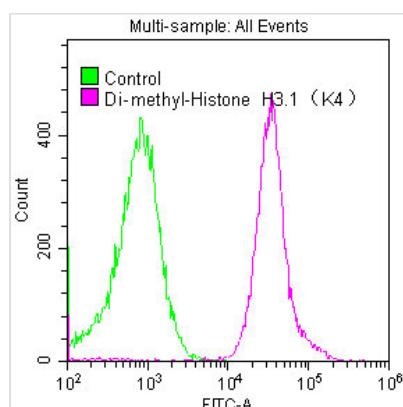


Immunocytochemistry analysis of CSB-

RA010418A04me2HU diluted at 1:100 and staining in HeLa cells performed on a Leica Bond™ system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Immunofluorescence staining of HeLa cells with CSB-RA010418A04me2HU at 1:34, 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°C. The secondary antibody was Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).



Overlay histogram showing HeLa cells stained with CSB-RA010418A04me2HU (red line) at 1:50. The cells were fixed with 70% Ethylalcohol (18h) and then permeabilized with 0.3% Triton X-100 for 2 min. The cells were then incubated in 1x PBS /10% normal goat serum to block non-specific protein-protein interactions followed by primary antibody for 1 h at 4°C. The secondary antibody used was FITC goat anti-rabbit IgG (H+L) at 1/200 dilution for 1 h at 4°C. Control antibody (green line) was used under the same conditions. Acquisition of >10,000 events was performed.

Description

The production of the di-methyl-Histone H3.1 (K4) recombinant monoclonal antibody is a meticulous process that initiates with the cloning of genes responsible for encoding the HIST1H3A antibody, encompassing both heavy and light chains. These cloned genes are then incorporated into expression vectors, which are subsequently introduced into host cells via transfection. The



host cells are then tasked with producing and secreting the antibody. To ensure its purity and efficacy, the antibody undergoes a stringent purification process utilizing affinity chromatography. Following purification, the antibody is rigorously tested for functionality in a range of applications, including ELISA, WB, ICC, and IF, making it a versatile tool for accurately detecting the human and mouse HIST1H3A proteins di-methylated at K4.

Di-methylation of Histone H3.1 at lysine 4 (K4) primarily functions in transcriptional activation, chromatin accessibility, developmental regulation, epigenetic memory, coordinated gene regulation, and has implications in various diseases.