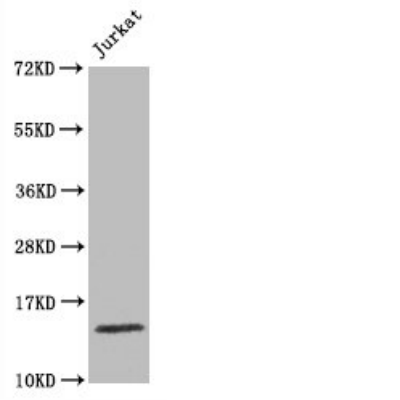
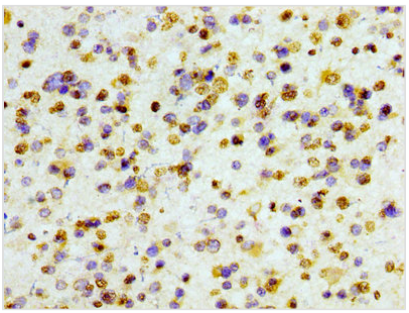
Histone H3.1 Recombinant Monoclonal Antibody

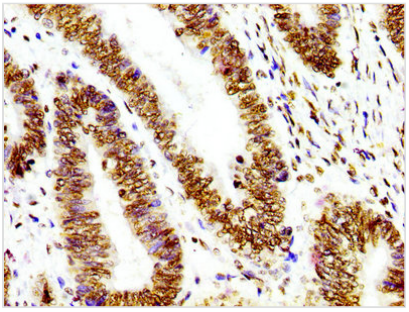
Product Code	CSB-RA010418A0HU
Abbreviation	Histone H3.1
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P68431
Immunogen	A synthesized peptide
Species Reactivity	Human
Tested Applications	ELISA, WB, IHC, IF, FC; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:500, 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.	27F2
Image	



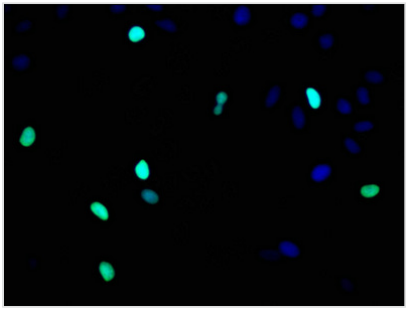
Western Blot
Positive WB detected in Jurkat whole cell lysate
All lanes Histone H3.1 antibody at 1.5μg/ml
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 15 KDa
Observed band size: 15 KDa



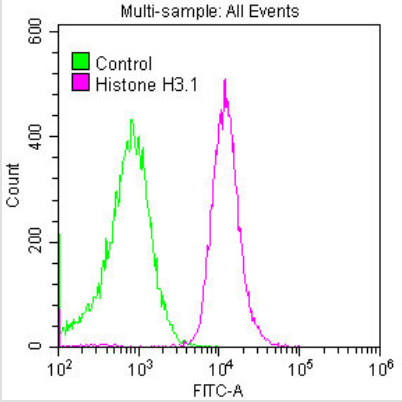
IHC image of CSB-RA010418A0HU diluted at 1:100 and staining in paraffin-embedded human glioma cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



IHC image of CSB-RA010418A0HU diluted at 1:100 and staining in paraffin-embedded human colon cancer performed on a Leica BondTM 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? 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-RA010418A0HU at 1:93,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).



Overlay histogram showing Hela cells stained with CSB-RA010418A0HU (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?.The secondary antibody used was FITC goat anti-rabbit IgG (H+L) at 1/200 dilution for 1 h at 4?. Control antibody (green line) was used under the same conditions. Acquisition of >10,000 events was performed.

Description

In the quest to produce the histone H3.1 recombinant monoclonal antibody, the initial phase involves the extraction of genes encoding the HIST1H3A antibody from rabbits that have been previously exposed to a synthesized peptide derived from the human HIST1H3A protein. These HIST1H3A antibody genes are then seamlessly integrated into specialized expression vectors. Following this genetic modification, the modified vectors are introduced into host suspension cells, which are carefully cultured to stimulate the expression and secretion of antibodies. Subsequently, the Histone H3.1 recombinant monoclonal antibody is subjected to a meticulous purification process utilizing affinity chromatography techniques, effectively isolating the antibody from the surrounding cell culture supernatant. Finally, the functionality of the antibody is comprehensively assessed through a diverse range of assays, including ELISA, WB, IHC, IF, and FC tests, unequivocally confirming its ability to interact effectively with the human histone H3.1.

Histone H3.1, a variant of the histone H3 protein family, along with other histone variants and post-translational modifications, plays a fundamental role in shaping the epigenetic landscape of the genome, influencing gene expression, and maintaining genomic integrity. Its dynamic interactions with DNA and various proteins are critical for the proper functioning of the cell.