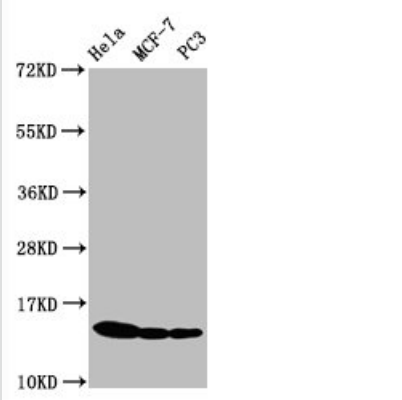
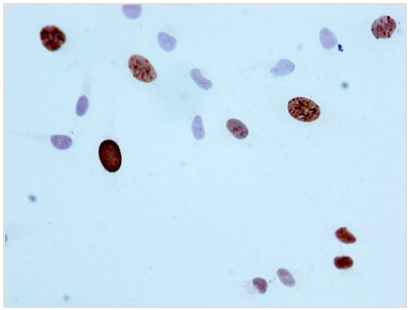
Phospho-Histone H3.1 (S1) Recombinant Monoclonal Antibody

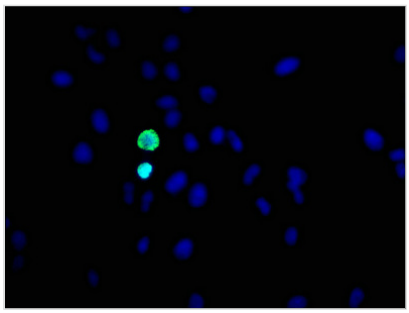
Product Code	CSB-RA010418A10phHU
Abbreviation	Histone H3.1
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P68431
Immunogen	A synthesized peptide
Species Reactivity	Human
Tested Applications	ELISA, WB, ICC, IF; Recommended dilution: WB:1:500-1:2000, ICC:1:50-1:500, IF:1:30-1:200
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.	2A5
Image	



Western Blot
Positive WB detected in Hela whole cell lysate, MCF-7 whole cell lysate, PC3 whole cell lysate
All lanes Phospho-Histone H3.1(S10)antibody at 0.5µg/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-RA010418A10phHU diluted at 1:100 and staining in Hela cells 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-RA010418A10phHU at 1:31,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

To create the phospho-histone H3.1 (S1) recombinant monoclonal antibody, genes encoding the HIST1H3A antibody are first cloned, encompassing both heavy and light chains. These cloned genes are then inserted into expression vectors, which are introduced into host cells via transfection. The host cells are responsible for the production and secretion of the antibody. Affinity chromatography is employed to ensure the antibody's purity, after which it undergoes rigorous functionality testing in various applications, including ELISA, WB, ICC, and IF, enabling accurate detection of the human HIST1H3A protein phosphorylated at S1.

Phosphorylation at H3.1 S1 can promote chromatin condensation thus leading to gene repression. During mitosis, histone H3.1 S1 phosphorylation plays a role in chromosome condensation and segregation. It helps ensure accurate cell division by regulating chromosomal architecture. Phosphorylated H3.1 S1 is also associated with DNA damage response and repair processes. H3.1 S1 phosphorylation is also linked to cell cycle regulation, epigenetic signaling, and coordinated gene regulation.