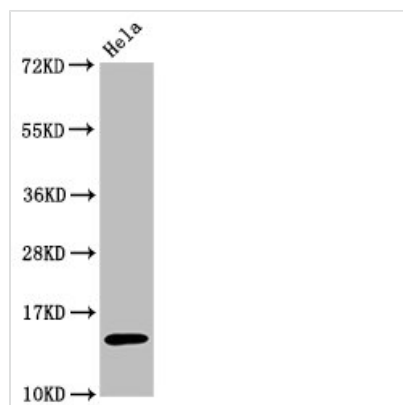




Acetyl-Histone H3.1 (K56) Recombinant Monoclonal Antibody

Product Code	CSB-RA010418A56acHU
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
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling
Gene Names	HIST1H3A
Clone No.	3H2
Image	



Western Blot

Positive WB detected in: HeLa whole cell lysate treated by 15mM sodium butyrate for 30min

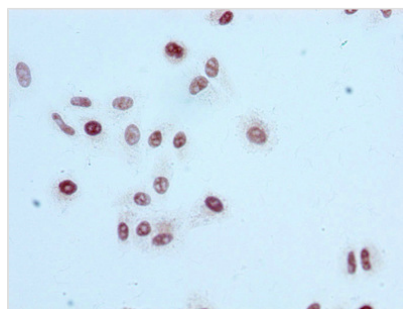
All lanes: Acetyl-Histone H3.1(K56) antibody at 0.7μg/ml

Secondary

Goat polyclonal to rabbit IgG at 1/50000 dilution

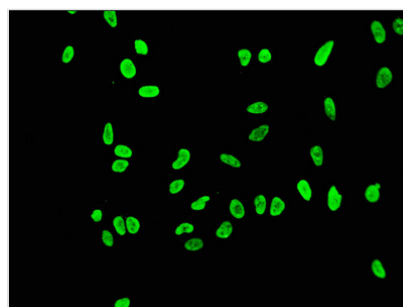
Predicted band size: 15 KDa

Observed band size: 15 KDa



Immunocytochemistry analysis of CSB-

RA010418A56achU diluted at 1:100 and staining in HepG2 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 (treated by 15mM sodium butyrate for 30min) with CSB-RA010418A56achU at 1:43, 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).

Description

In the development of the acetyl-histone H3.1 (K56) recombinant monoclonal antibody, the initial phase comprises the retrieval of genes responsible for coding the HIST1H3A antibody. These genes are acquired from rabbits that have been previously exposed to a synthesized peptide derived from the human HIST1H3A protein acetylated at K56. Subsequently, these antibody genes are seamlessly integrated into specialized expression vectors. Following this genetic modification, the vectors are introduced into host suspension cells, which are carefully cultured to stimulate the expression and secretion of antibodies. Following this cultivation phase, the acetyl-histone H3.1 (K56) recombinant monoclonal antibody is subjected to a thorough purification process utilizing affinity chromatography techniques, effectively separating the antibody from the surrounding cell culture supernatant. Ultimately, the functionality of the antibody is comprehensively evaluated through a diverse array of assays, including ELISA, WB, ICC, and IF tests, unequivocally confirming its capacity to interact with the human HIST1H3A protein acetylated at K56.

Acetylation of HIST1H3A at K56 is a critical histone modification that generally



promotes an open chromatin structure and facilitates gene activation. It plays a significant role in regulating gene expression, DNA repair, and epigenetic inheritance, contributing to various cellular processes and maintaining genome integrity. Dysregulation of K56 acetylation can have important implications for diseases and developmental processes.