

Anti-H2AK5ac HIST1H2AB Antibody

Catalog Number: CI1078

About HIST1H2AB

Histones are the main constituents of the protein part of chromosomes of eukaryotic cells. They are rich in the amino acids arginine and lysine and have been greatly conserved during evolution. Histones pack the DNA into tight masses of chromatin. Two core histones of each class H2A, H2A, H3 and H4 assemble and are wrapped by 146 base pairs of DNA to form one octameric nucleosome. Histone tails undergo numerous post-translational modifications, which either directly or indirectly alter chromatin structure to facilitate transcriptional activation or repression or other nuclear processes. In addition to the genetic code, combinations of the different histone modifications reveal the so-called "histone code". Histone methylation and demethylation is dynamically regulated by respectively histone methyl transferases and histone demethylases.

Overview

Product Name	Anti-H2AK5ac HIST1H2AB Antibody
Reactive Species	Human
Description	Boster Bio Anti-H2AK5ac HIST1H2AB Antibody (Catalog# CI1078). Tested in ChIP, ChIP-seq, ELISA, Dot blot, WB, IF applications. This antibody reacts with Human.
Application	ChIP, ChIP-seq, Dot blot, ELISA, IF, WB
Clonality	Polyclonal
Formulation	Affinity purified polyclonal antibody in PBS containing 0.05% azide and 0.05% ProClin 300.
Storage Instructions	Store at -20°C. For long-term storage, store at -80°C. Avoid multiple freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q7L7L0

Technical Details

Immunogen	This antibody is raised in rabbit against the region of histone H2A containing the acetylated lysine 5 (H2AK5ac), using a KLH-conjugated synthetic peptide.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot. Boster recommends high sensitivity ChIP-seq Kit (CK1001 & CK1002) for Chromatin Immunoprecipitation.
Form	Liquid
Concentration	0.5-1mg/ml, actual concentration vary by lot. Use suggested dilution ratio to decide dilution procedure.
Purification	Affinity purified

Suggested Dilutions

Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.

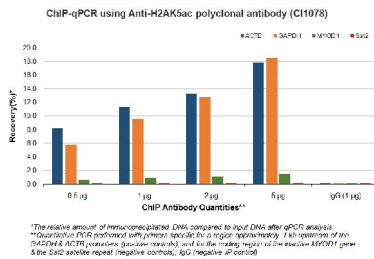
If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.

Some PubMed article(s) citing the expression level of this target are as follows:

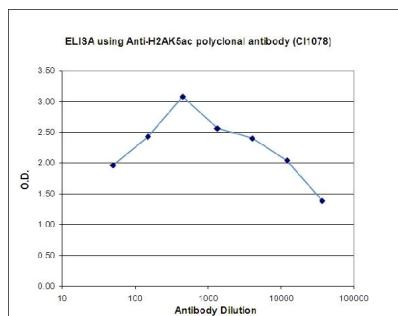
Boster Bio's internal QC testing used:

User needs to optimize the dilution ratio for this antibody.

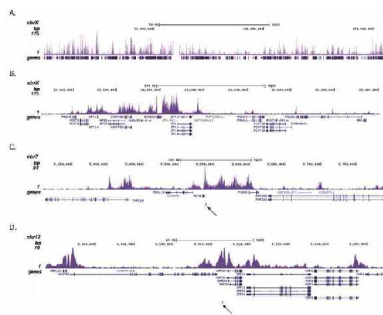
Anti-H2AK5ac HIST1H2AB Antibody (CI1078) Images



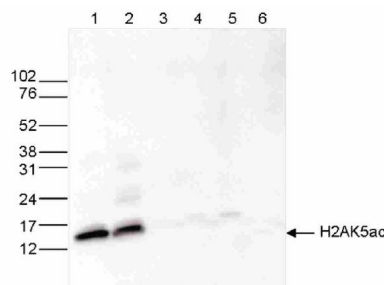
ChIP assays were performed using human HeLa cells, Anti-H2AK5ac polyclonal antibody (Catalog # CI1078) and optimized PCR primer sets for qPCR. A titration of the antibody consisting of 0.5, 1, 2 and, 5 ug per ChIP experiment was analysed. IgG (1 ug/IP) was used as negative IP control. QPCR was performed with primers for a region approximately 1 kb upstream of the GAPDH and ACTB promoters, used as positive controls, and for the coding region of the inactive MYOD1 gene and the Sat2 satellite repeat, used as negative controls.



To determine the titer of the antibody, an ELISA was performed using a serial dilution of Anti-H2AK5ac polyclonal antibody (Catalog # CI1078) in antigen coated wells. The antigen used was a peptide containing the histone modification of interest. By plotting the absorbance against the antibody dilution, the titer of the antibody was estimated to be 1:25,000.

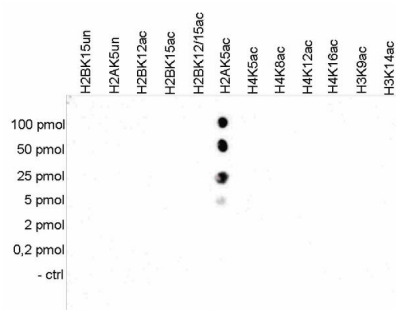


ChIP was performed on sheared chromatin from 1.5 million HeLaS3 cells using 0.5 ug of Anti-H2AK5ac polyclonal antibody (Catalog # CI1078). The IP DNA was subsequently analysed on an Illumina HiSeq. Library preparation, cluster generation and sequencing were performed according to the manufacturer instructions. The 51 bp tags were aligned to the human genome using the BWA algorithm. Figure 2 shows the enrichment along the complete sequence and a 1 Mb region of the X-chromosome (fig 2A and B) and in genomic regions of chromosome 7, surrounding the ACTB gene, and of chromosome 12, surrounding the GAPDH gene (fig 2C and D). The position of the amplicon used for ChIP-qPCR is indicated by an arrow.



Western blot analysis of H2AK5ac expression in HeLa whole cell lysates (25 ug, lane 1), histone extracts from HeLa cells (15 ug, lane 2), recombinant histone H2A (1 ug, lane 3), recombinant histone H2B (1 ug, lane 4), recombinant histone H3 (1 ug, lane 5) and recombinant histone H4 (1 ug, lane 6). H2AK5ac was detected using Anti-H2AK5ac polyclonal antibody (Catalog # CI1078) at 1/1000 dilution.

A Dot Blot analysis was performed to test the cross reactivity of Anti-H2AK5ac polyclonal antibody (Catalog # CI1078) with peptides containing other histone modifications and the unmodified H2AK5. One hundred to 0.2 pmol of the respective peptides were spotted on a membrane. The



antibody was used at a dilution of 1:5,000. This figure shows a high specificity of the antibody for the modification of interest.

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