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antibody and ELISA experts

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Anti-H4K20me1 HIST1H4A Antibody

Catalog Number: CI1039

About HIST1H4A

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, H2B, 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-H4K20me1 HIST1H4A Antibody
Reactive Species	Human
Description	Boster Bio Anti-H4K20me1 HIST1H4A Antibody (Catalog# CI1039). Tested in ChIP, ELISA, Dot blot, WB, IF applications. This antibody reacts with Human.
Application	ChIP, 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	P62805

Technical Details

Immunogen	This antibody is raised in rabbit against histone H4 containing the monomethylated lysine 20 (H4K20me1), 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

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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.

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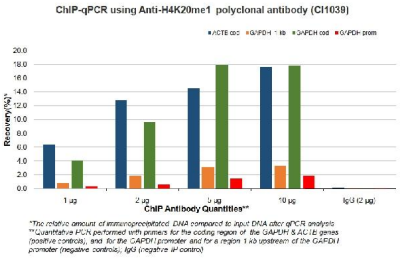
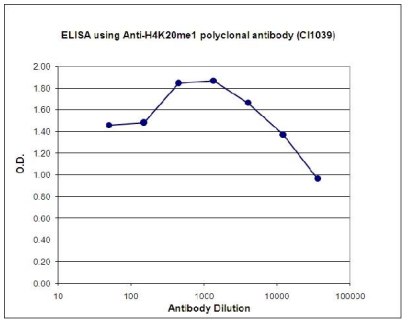
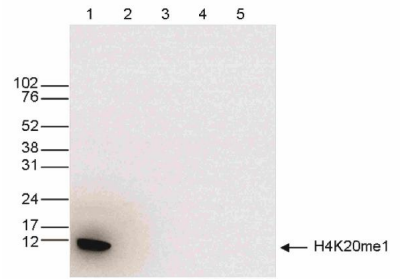
Anti-H4K20me1 HIST1H4A Antibody (CI1039) Images



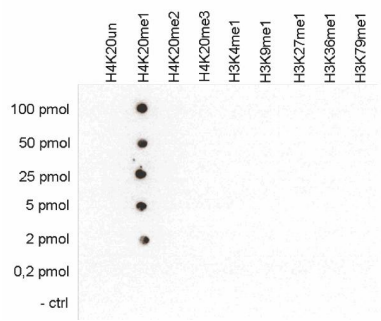
ChIP assays were performed using human HeLa cells, Anti-H4K20me1 polyclonal antibody (Catalog # CI1039) and optimized PCR primer sets for qPCR. A titration of the antibody consisting of 1, 2, 5, and 10 ug per ChIP experiment was analysed. IgG (2 ug/IP) was used as negative IP control. QPCR was performed with primers for the coding region of the active GAPDH and ACTB genes, used as positive controls, and for the GAPDH promoter and a region located 1 kb upstream of the GAPDH promoter, used as negative controls.



To determine the titer, an ELISA was performed using a serial dilution of Anti-H4K20me1 polyclonal antibody (Catalog # CI1039) 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 1:51,100.



Western blot analysis of H4K20me1 expression in HeLa whole cell lysates (25 ug, lane 1), recombinant histone H2A (1 ug, lane 2), recombinant histone H2B (1 ug, lane 3), recombinant histone H3 (1 ug, lane 4) and recombinant histone H4 (1 ug, lane 5). H4K20me1 was detected using Anti-H4K20me1 polyclonal antibody (Catalog # CI1039) at 1/1000 dilution.



A Dot Blot analysis was performed to test the cross reactivity of Anti-H4K20me1 polyclonal antibody (Catalog # CI1039) with peptides containing different modifications of histone H3 and H4 or the unmodified H4K20 sequence. One hundred to 0.2 pmol of peptide containing the respective histone modification were spotted on a membrane. The antibody was used at a dilution of 1:20,000. This figure shows a high specificity of the antibody for the modification of interest.