diagenode
Innovating Epigenetics Solutions

ChIP-seq grade

TECHNICAL DATASHEET

H3K79ac monoclonal antibody - Classic

Cat. No. C15210006

Type: Monoclonal	Specificity: Human
Isotype: NA	Concentration: 1 µg/µl
Source: Rabbit	Purity: Protein A purified
Lot No.: 001	Storage: Store at 4°C.
Size: 100 µg /100 µl	Precautions: This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Description

Monoclonal antibody raised in rabbit against histone H3 acetylated at Lys79 (H3K79ac), using a KLH-conjugated synthetic peptide.

Applications

Applications	Suggested dilution	References
ChIP *	5 µg/ChIP	Fig 1, 2
Western blot	1:2,000	Fig 3
Immunofluorescence	1:500	Fig 4

*Please note that the optimal antibody amount per IP should be determined by the end-user. We recommend testing 1-10 µg per IP.

Target Description

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. Acetylation of Lys79 is associated with gene activation.

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Validation Data

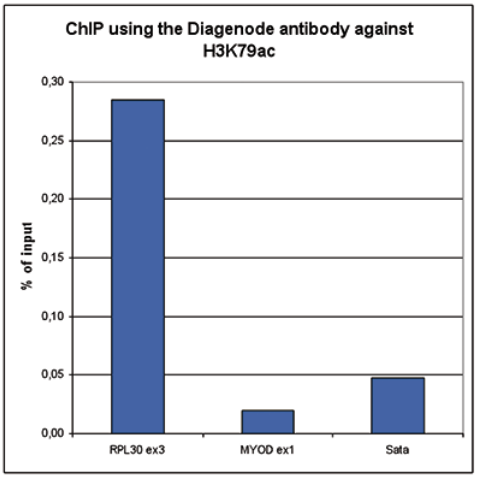
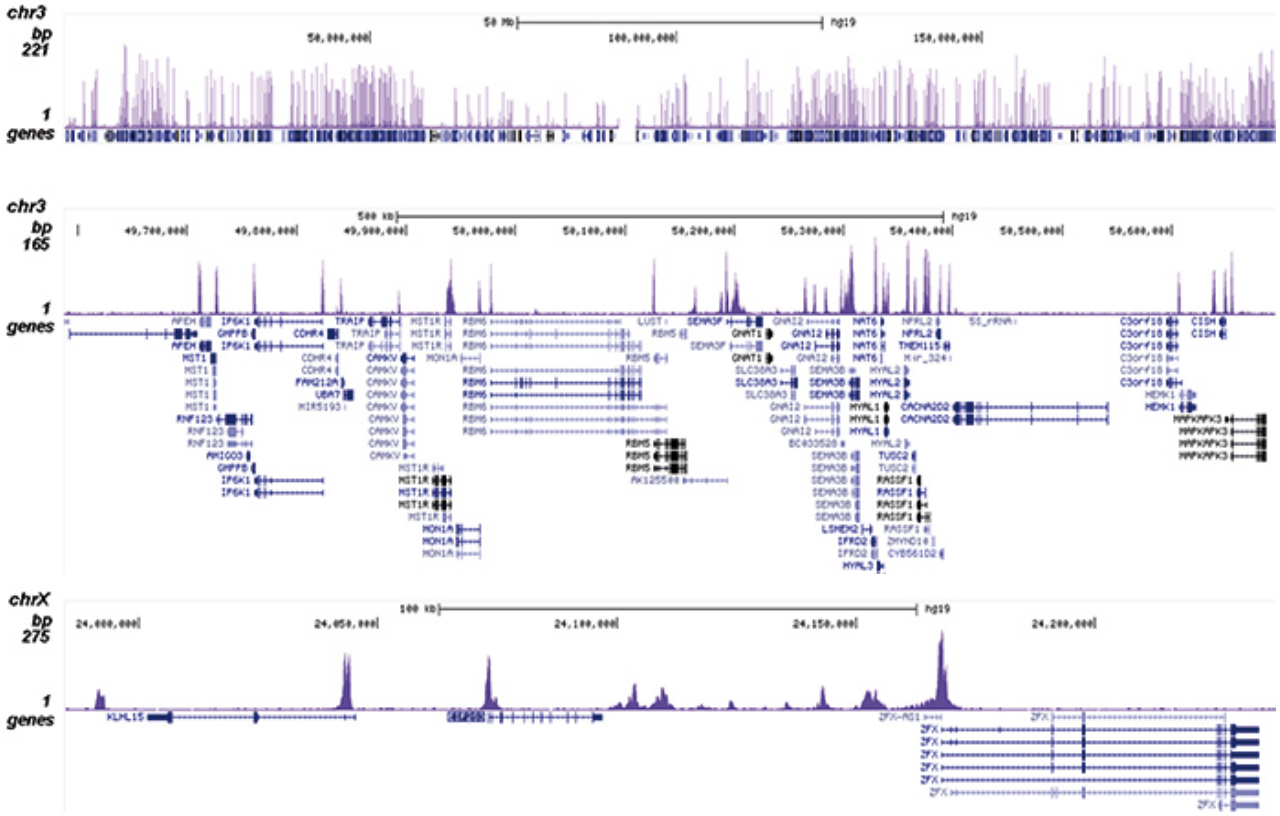


Figure 1. ChIP results obtained with the Diagenode monoclonal antibody directed against H3K79ac

ChIP assays were performed on sheared chromatin from HeLa cells using 5 ?g of the Diagenode monoclonal antibody against H3K79ac (cat. No. C15210006). QPCR was performed with primers for the coding region of the RPL30 gene, used as positive control and for the inactive MYOD1 gene and the Sata satellite repeat, used as negative control. Figure 1 shows the recovery, expressed as a % of input (the relative amount of immunoprecipitated DNA compared to input DNA after qPCR analysis).



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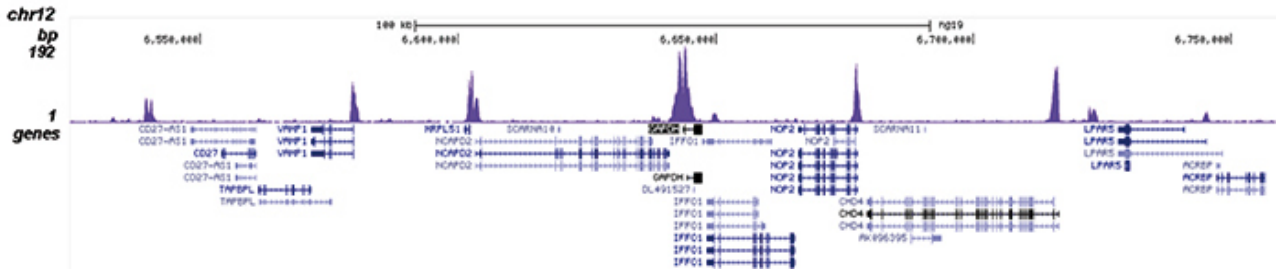

Figure 2. ChIP-seq results obtained with the Diagenode monoclonal antibody directed against H3K79ac
ChIP was performed on sheared chromatin from 1 million HeLa cells using 5 ?g of the Diagenode antibody against H3K79ac (Cat. No. C15210006) as described above. The IP'd DNA was subsequently analysed on an Illumina HiSeq. Library preparation, cluster generation and sequencing were performed according to the manufacturer's instructions. The 50 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 human chromosome 3 (fig 2A and B), and in two genomic regions surrounding the EIF2S3 and GAPDH positive control genes (fig 2C and D).

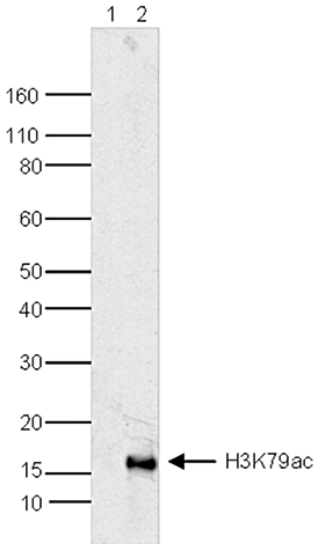

Figure 3. Western blot analysis using the Diagenode monoclonal antibody directed against H3K79ac
Histone extracts from HeLa cells treated with butyrate (lane 2) or untreated control cells (lane 1) were analysed by Western blot using the Diagenode monoclonal antibody against H3K79ac (cat. No. C15210006) diluted 1:1,000 in TBS-Tween containing 5% skimmed milk. The position of the protein of interest is indicated on the right; the marker (in kDa) is shown on the left.

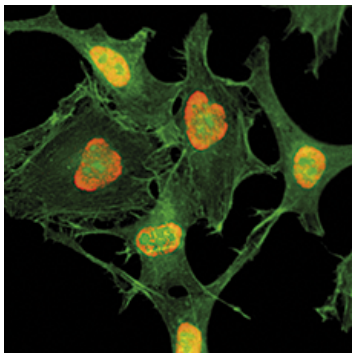

Figure 4. Immunofluorescence using the Diagenode monoclonal antibody directed against H3K79ac
HeLa cells treated with butyrate were stained with the Diagenode antibody against H3K79ac No. C15210006 (red) diluted 1:500. Actin filaments were stained with fluorescein phalladoin (green).

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