diagenode
Innovating Epigenetic Solutions

H3K27me1 polyclonal antibody

Cat. No. C15410045 (pAb-045-050)
Type: Polyclonal ChIP-grade
Source: Rabbit
Lot #: A932-00234P
Size: 50 µg/ 26 µl
Concentration: 1.93 µg/µl

Specificity: Human, Arabidopsis: positive
Other species: not tested.
Purity: Affinity purified polyclonal antibody in PBS containing 0.05% azide and 0.05% ProClin 300.
Storage: Store at -20°C; for long storage, store at -80°C. Avoid multiple freeze-thaw cycles.
Precautions: This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Description: Polyclonal antibody raised in rabbit against histone H3 containing the monomethylated lysine 27 (H3K27me1), using a KLH-conjugated synthetic peptide.

Applications

	Suggested dilution	References
ChIP*	1 µg/ChIP	Fig 1
ELISA	1:500	Fig 2
Dot blotting	1:20,000	Fig 3
Western blotting	1:1,000	Fig 4
IF	1:1,000	Fig 5

* Please note that the optimal antibody amount per IP should be determined by the end-user. We recommend testing 1-5 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.

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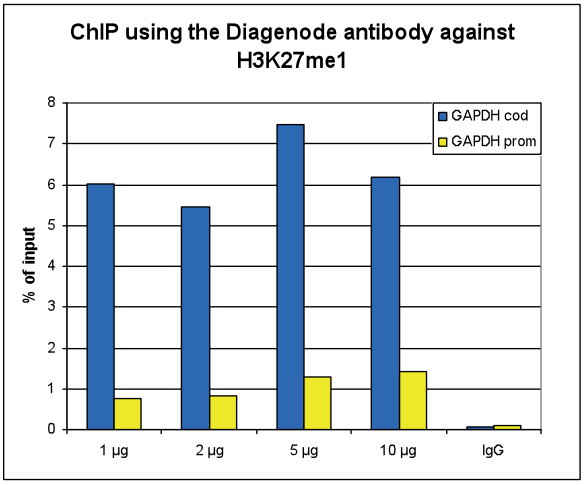

Figure 1. ChIP results obtained with the Diagenode antibody directed against H3K27me1

ChIP assays were performed using human HeLa cells, the Diagenode antibody against H3K27me1 (Cat. No. 15410045) and optimized PCR primer sets for qPCR. ChIP was performed with the "LowCell# ChIP" kit (Cat. No. C01010072), using sheared chromatin from 100,000 cells. A titration of the antibody consisting of 1, 2, 5 and 10 µg per ChIP experiment was analysed. IgG (2 µg/IP) was used as negative IP control. QPCR was performed with primers for the promoter and the coding region of the active gene GAPDH used as a negative and a positive control target, respectively. Figure 1 shows the recovery, expressed as a % of input (the relative amount of immunoprecipitated DNA compared to input DNA after qPCR analysis).

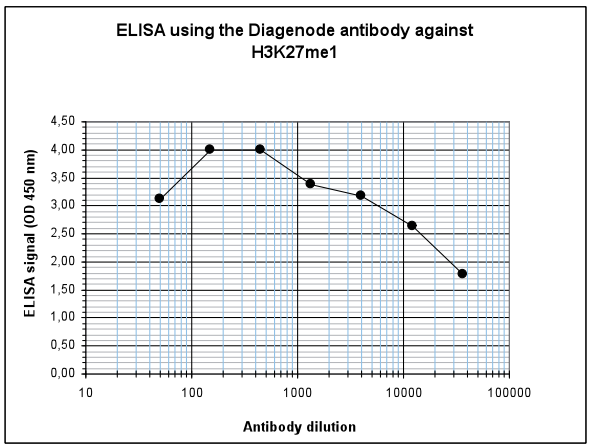

Figure 2. Determination of the antibody titer

To determine the titer of the antibody, an ELISA was performed using a serial dilution of the Diagenode antibody directed against H3K27me1 (Cat. No. 15410045). The antigen used was a peptide containing the histone modification of interest. By plotting the absorbance against the antibody dilution (Figure 1), the titer of the purified antibody was estimated to be 1:32,900.

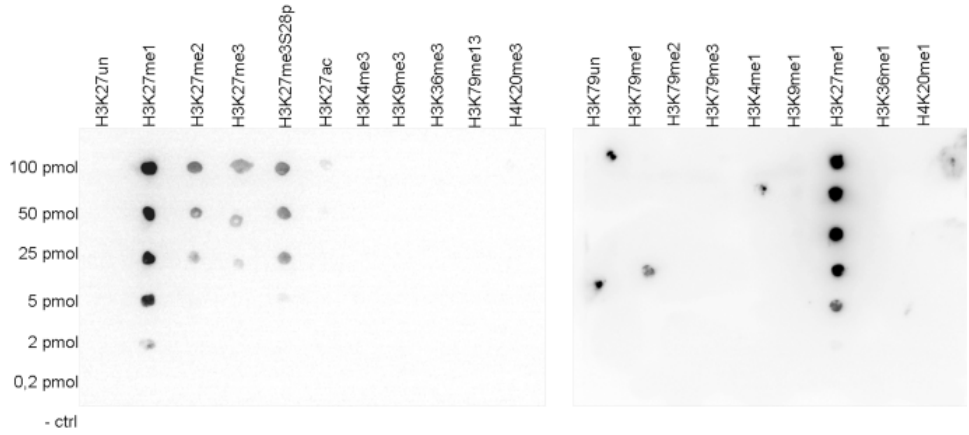

Figure 3. Cross reactivity tests using the Diagenode antibody directed against H3K27me1

A Dot Blot analysis was performed to test the cross reactivity of the Diagenode antibody against H3K27me1 (Cat. No. 15410045) with peptides containing other modifications and unmodified sequences of histone H3 and H4. One hundred to 0.2 pmol of the peptide containing the respective histone modification were spotted on a membrane. The antibody was used at a dilution of 1:20,000. Figure 3 shows a high specificity of the antibody for the modification of interest.

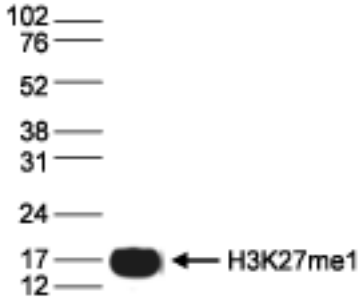

Figure 4. Western blot analysis using the Diagenode antibody directed against H3K27me1

Histone extracts (15 µg) from HeLa cells were analysed by Western blot using the Diagenode antibody against H3K27me1 (Cat. No. C15410045) 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.

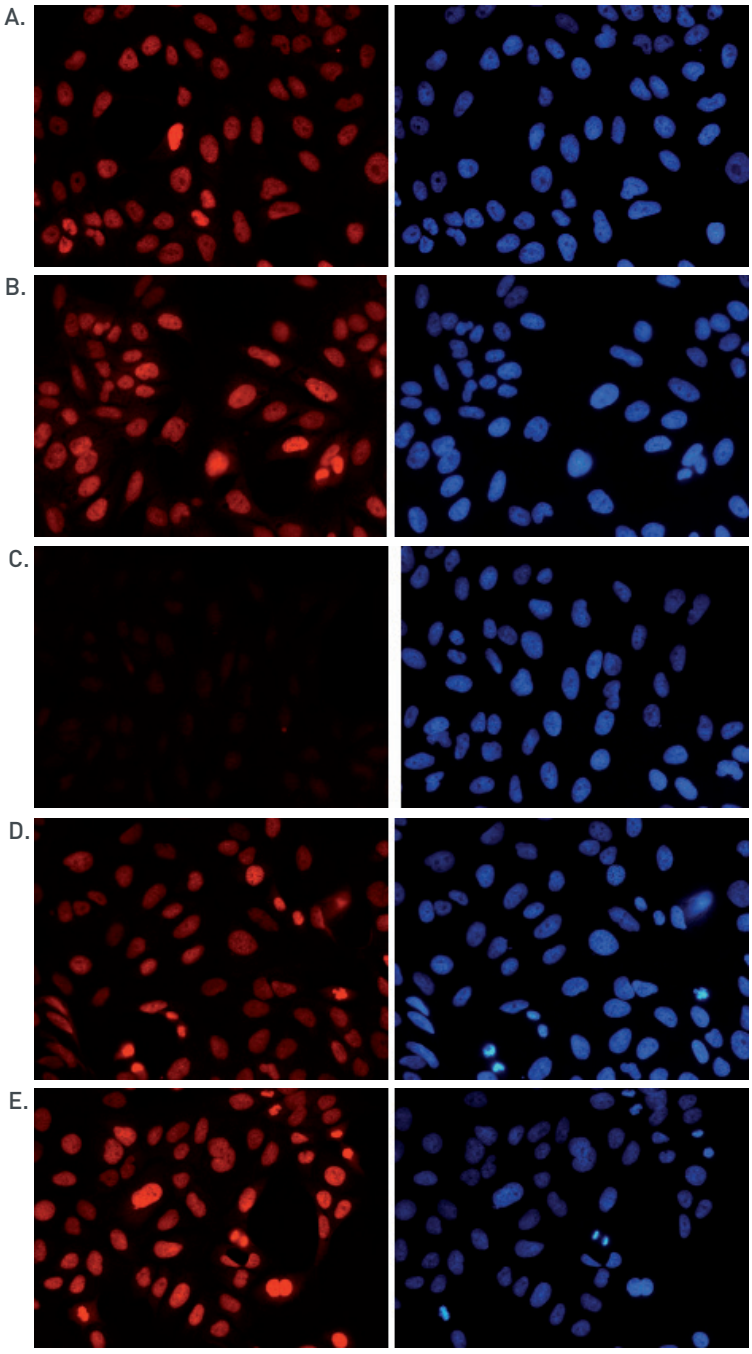

Figure 5. Immunofluorescence using the Diagenode antibody directed against H3K27me1

Human osteosarcoma (U2OS) cells were stained with the Diagenode antibody against H3K27me1 (Cat. No. C15410045) and with DAPI. Cells were fixed with 4% formaldehyde for 20' and blocked with PBS/TX-100 containing 5% normal goat serum. Figure 5A: cells were immunofluorescently labeled with the H3K27me1 antibody (left) diluted 1:1,000 in blocking solution followed by an anti-rabbit antibody conjugated to Alexa568 or with DAPI (right), which specifically labels DNA. Figure 5B, C, D and E: staining of the cells with the H3K27me1 antibody after incubation of the antibody with 2 ng/µl blocking peptide containing the unmodified and the mono-, di- and trimethylated H3K27, respectively.